

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Reexamination of Roaming Obligations of)	WT Docket No. 05-265
Commercial Mobile Radio Service Providers)	
And Other Providers of Mobile Data Services)	

**EVOLVE CELLULAR, INC. WRITTEN COMMENTS CONCERNING
CONTEMPLATED NPRM**

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December 28, 2016

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EXECUTIVE SUMMARY

VoLTE is already subject to the Rule 20.12(d) automatic roaming standard.

The Commission has already classified retail VoLTE-based service as the specific type of CMRS service that meets the scope formulation in Section 20.12(a)(2). Section 20.12(a)(2) uses the same scope formulation as is used for 20.18(a)(1) (911) and 20.19(a)(1) (HAC) for retail services. The Commission has already held that retail VoLTE meets the scope formulation in Section 20.12(a)(2), so any carrier that provides retail VoLTE is already required to host automatic roaming for a home carrier's retail VoLTE. The forbearance grant in the *Open Internet Order* does not exempt LTE networks or VoLTE from the automatic roaming rule.

The Commission does not have to require that the major carriers take the technical steps necessary to support fully interoperable “VoLTE roaming” at this time.

In order to require “VoLTE roaming,” the Commission would have to mandate that host carriers support full network-to-network IMS interoperation and then also require that all carriers implement local breakout with visited network routing. Only at that point will the visited (host) carrier be service aware, recognize when the roamer is trying to make a “voice” call or send a text and then be in position to directly handle the call or text through its own VoLTE or texting server, process the call/text across its various gateways and out to the world, and then bill the other carrier for any associated “minutes” or “SMS.” While this is technically feasible, it is not how LTE roaming is done today, and it is not necessary for roamers to use their VoLTE client on their on smartphones and “originate and receive calls.” The home carrier can simply continue to obtain automatic roaming and directly supply the needed functions after securing access to the RAN connection through the visited carrier.

There is no working and competitive “roaming” market, so regulatory backstops are still necessary to ensure that small and rural providers that do not have and will never have their own nationwide facilities-based networks will have access to roaming and be able to provide a competitive service to their facilities-based customers.

There is not a working competitive roaming market, so some regulation and a regulatory backstop is still required. The best course of action is for the Commission to definitively resolve several questions about its desired outcomes and goals:

- Should the rules encourage roaming, or should it be limited in availability and expensively priced?
- Are all, or only some, facilities-based providers entitled to roaming, and must host carriers offer terms addressing future expansions of the requesting carrier’s facilities-based coverage?
 - Does extensive use of unlicensed and light-licensed spectrum disqualify a carrier from roaming rights?
 - What must a requesting provider that intends to expand coverage to new areas in the future demonstrate before it can obtain roaming terms in those new areas in advance of actual service provision?
- There is no clear understanding regarding what the Commission wants to allow and what it wants to limit, discourage or outright prohibit with regard to LTE roaming use.
- Are home carriers that market facilities-based service to users outside of their “licensed areas” ineligible for roaming?

If the Commission clarifies the current standards, mitigates current complaint case delays, and alleviates costs facing new entrants, unification under a single Title II standard is not necessary.

The Commission can maintain the Title II standard for automatic roaming and the Title III standard for mobile broadband Internet access and still satisfy its goals if it *reinforces* that there are two standards, *clarifies* the substantive meaning of each standard, *applies* the two standards in their proper context, more vigorously *enforces* them, and takes action to *reduce* small carriers’ litigation risk and cost.

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Evolve Cellular, Inc. (Evolve) submits this written *Ex Parte* in the above-described proceeding to address some of the topics mentioned in the draft NPRM that was removed from the Commission's November 17, 2016 open meeting and returned to circulation.¹

I. Introduction to Written Presentation

According to the Fact Sheet released by Chairman Wheeler on October 27, 2016,² the NPRM would, among other things:

1. “Adopt the same regulatory classification for mobile voice service provided via VoLTE as conventional mobile voice service, so that VoLTE is covered by the unified roaming standard.” The Fact Sheet asserts that “VoLTE has not been classified and is not currently subject to any roaming standard” and “[b]y classifying VoLTE as a commercial mobile service and a telecommunications service, VoLTE would be subject to the proposed unified roaming standard.”
2. “Adopt a unified Title II roaming standard for both voice and data” that would afford “and competitive access to voice and data roaming on ‘just and reasonable’ terms.”

¹ Notice, Deletion of Agenda and Consent Agenda Items From November 17, 2016 Open Meeting, November 16, 2016, available at <https://www.fcc.gov/document/deletion-agenda-and-consent-agenda-items-november-17-2016-open> (deleting Item 2, Notice of Proposed Rulemaking that would initiate new proceeding and seek comment on proposals to implement a unified roaming standard and to classify VoLTE for roaming purposes).

² Fact Sheet: Chairman Wheeler’s Proposals to Advance Seamless Nationwide Access to 4G LTE Mobile Voice and Broadband Service, October 27, 2016, available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-341951A1.pdf.

Users expect and demand that their mobile service be available wherever they may be, so reasonably priced nationwide seamless roaming is an essential input, especially for smaller carriers. Without roaming a carrier cannot provide a fully competitive service.³ Evolve has spent several years trying to secure roaming terms with each of the major nationwide providers. The cost and delay has been extraordinarily burdensome. Evolve therefore fully supports the intent behind these proposals. At the same time, however, Evolve does not believe that either of the precise rulemaking-based steps generally outlined in the Fact Sheet are actually necessary. Other action would be far more helpful.

There is a significant difference between automatic roaming terms that (1) allow the home carrier⁴ to supply VoLTE to the home carrier's own users when they are roaming on a host carrier's⁵ "visited"⁶ network and (2) imposing a substantive mandate that the host (visited) network itself provide the VoLTE capability. Retail VoLTE has already been classified as CMRS. Providers of the underlying LTE networks used to support retail VoLTE are already required to offer automatic roaming under Title II for home carriers that provide their own hosted VoLTE interconnected voice and data services when their users roam on another carriers' radio

³ *In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Serv. Providers*, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 15817, ¶¶ 27-28 (2007) ("Automatic Roaming Order"); *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, Second Report and Order, 26 FCC Rcd 5411, 5418-5419, ¶¶ 14-15 (2011) ("Data Roaming Order").

⁴ In GSMA parlance the "home" provider is the carrier that provides primary facilities-based service to the subscriber when the user is able to connect to the home carrier's coverage or service area. The home carrier is the entity that secures roaming arrangements so the subscriber can continue to use the service when the home carrier's primary service coverage is not available.

⁵ The Commission's rules define a "host carrier" in Section 20.3:

Host Carrier. For automatic roaming, the host carrier is a facilities-based CMRS carrier on whose system another carrier's subscriber roams. A facilities-based CMRS carrier may, on behalf of its subscribers, request automatic roaming service from a host carrier.

⁶ GSMA uses "visited public land mobile network" or "visited network" rather than "host." Evolve will use them (Footnote Continued on Next Page)

access network (RAN). The Commission does not need to go farther and require that host networks themselves directly supply the roamer's VoLTE functionality.

There is still not a workably competitive "roaming market" so regulatory backstops must be retained. Although Evolve would support entirely subjecting roaming arrangements for mobile broadband Internet access service to Title II, that is not currently required. The Commission should solve the current problems by better clarifying what the two standards entail and then ensure that the present rule is more vigorously enforced with less cost and delay when formal complaints or Declaratory Rulings are filed. Further, the specific action contemplated in the NPRM may not reflect the most prudent or effective steps to take in order to ensure that small and rural facilities-based carriers can provide competitive nationwide service. Instead, the Commission should further expound on its goals and expectations under the current rules, and provide a better statement regarding what the two standards actually mean in a substantive, outcome-oriented sense.

II. Background on Evolve Cellular, Inc.

Evolve Cellular, Inc. was previously known as Worldcall Interconnect, Inc. ("WCX"). Evolve is the 700 MHz Block B licensee in CMA 667 in Texas. This CMA covers much of the triangular area between Houston, Austin and San Antonio and is mostly rural. Evolve has constructed a radio access network and provides fixed and mobile wireless broadband, voice, and texting services using LTE within CMA 667. Evolve is also leveraging its currently installed system (LTE core and associated adjuncts) into new markets by deploying LTE-based coverage

(Footnote Continued)
interchangeably in this submission.

and service in various parts of the country using unlicensed and/or light-licensed spectrum. In these areas, Evolve will operate in a similar fashion to fully-licensed spectrum with new technology that can overcome the fact that light-licensed and unlicensed bands do not have fully exclusive use and must accept at least some level of interference.

To provide seamless nationwide services of any sort, Evolve must establish roaming with most if not all of the major carriers. Evolve successfully negotiated an agreement with one nationwide carrier and is continuing its efforts with the others. Evolve is a full member of the GSMA and adheres to all GSMA standards with regard to its LTE-based solutions and services, including but not limited to LTE roaming and IP Multimedia Subsystem (IMS)⁷ interoperability. Evolve will happily host GSMA standards-based roaming on Evolve's current and future facilities-based licensed, unlicensed, and/or light licensed networks.

Evolve also anticipated (like most of the major carriers have now recognized) that solely using fully-licensed frequency to deliver services through a macrocell environment will not satisfy tomorrow's demand needs and services. Evolve was able to grasp this early on because, unlike the major carriers, Evolve has very little licensed spectrum and lacks access to the billions of dollars in capital that would be required to obtain and then build a nationwide fully-licensed network. Evolve's innovative efforts to devise and deploy competitive, cutting-edge mobile service have therefore necessarily focused in two areas:

⁷ GSMA describes IMS as follows: "The 3rd Generation Partnership Project (3GPP) architecture has introduced a subsystem known as the IP Multimedia Subsystem (IMS) as an addition to the Packet-Switched (PS) domain. IMS supports new, IP-based multimedia services as well as interoperability with traditional telephony services. IMS is not a service *per se*, but a framework for enabling advanced IP services and applications on top of a packet bearer." See GSM Association Official Document IR.65 - IMS Roaming and Interworking Guidelines, p. 4 (January, 2016), available at <http://www.gsma.com/newsroom/wp-content/uploads/IR.65-v18.02.pdf>.

- * First, Evolve found ways to pair LTE-based IMS software solutions with new services that extend carrier-enabled flexibility to device and “software as a service” (“SaaS”) innovators. Evolve and these companies will then become partners in deploying applications and services to retail users;
- * Second, Evolve has integrated unlicensed and light licensed frequencies into its LTE core and system. Evolve will use this spectrum rather than fully-licensed spectrum as the means to expand Evolve’s facilities-based radio access network coverage to new markets outside of CMA 667.

Evolve’s combined suite of innovations create a new type of facilities-based CMRS service that is focused on supporting innovation that delivers new services and legacy services in new ways. Evolve characterizes its business plan as offering common carrier-based “Network as a Service.” The company is currently engaged in multiple proofs of concept through market trials that are determining the viability of these services.

To implement this technology and business plan, Evolve acquired the assets of Scratch Wireless in March, 2016. Scratch was an early pioneer in developing unique methods to support smartphones via “Wi-Fi First” unlicensed spectrum. Evolve has now integrated Scratch’s inventions into Evolve’s LTE-based carrier network, allowing Evolve to turn Scratch’s over-the-top application into a fully-managed LTE-based end-to-end service, whereby the edge device now completely interoperates with Evolve’s IMS core. Evolve recently filed for patent protection for its “LTE Primary WiFi” technology, which is superior to the much-maligned LTE-U approach many larger carriers plan to use.

Evolve is a facilities-based CMRS provider. Evolve is not and will not be a “reseller” or MVNO.⁸ Evolve can and does support its own services via its own hardware, software, LTE core, and network infrastructure. Evolve’s facilities work with multiple types of radio access

⁸ Indeed, Evolve will resell Evolve’s facilities-based service to MVNOs and MVNEs.

networks and virtually any spectral input that can be used on an exclusive or shared basis to provide facilities-based service. As the technology advances, Evolve will – consistent with its name – continue to incorporate new methods into its advanced network and conceive even more services for the marketplace.

III. The Automatic Roaming Rule Already Applies to Home Carrier-Supplied Voice and Interconnected Data Services Provided Over LTE-Based Radio Access Networks.

There is a significant difference between requiring automatic roaming terms that (1) allow the home carrier to supply VoLTE to the home carrier's own users when they are roaming on a host carrier's "visited" network and (2) imposing a technical mandate that the host (visited) network itself provide the VoLTE capability. Retail VoLTE has already been classified as CMRS. Providers of the underlying LTE networks used to support retail VoLTE are already required to offer automatic roaming under Title II for home carriers that provide their own hosted VoLTE interconnected voice and data services when their users roam on other carriers' RANs. If this is not obvious, then the Commission should make it so through a Declaratory Ruling. The Commission does not need to go farther and require that host networks themselves directly supply the roamer's VoLTE functionality, which is what the description of the NPRM proposal appears to contemplate.

A. Technical Description of LTE roaming under GSMA standards.

Facilitating automatic roaming on an LTE network does not mean that the host (visited) network provider has to provide "VoLTE roaming service" or even interwork the host provider's own VoLTE capability with the home carrier's VoLTE system. The host carrier does not have to supply either the VoLTE capability or the public switched interconnection. None of these things are technical imperatives to the ability of a roamer to "originate or terminate" a VoLTE call on a

host LTE network. Except for RAN connectivity, *the home provider* can supply all needed functionalities, connections to and interoperation with other networks and the public switched network. All that is required is authentication on the host LTE RAN and then routing of the digital IP information back to the home carrier's network for further processing. While full or partial IMS interoperation between host and home carriers' IMS would be useful, it is not a technical prerequisite to roamers' ability to enjoy VoLTE and "originate or terminate a call."⁹

The draft NPRM's proposal to require "VoLTE roaming" appears to rest on a faulty assumption regarding how LTE networks operate and in particular how most domestic LTE roaming is actually delivered today. This is likely because some still do not understand that the technical aspects of LTE roaming are different from prior technologies. Older-style roaming basically required the host provider to support the entire service, including the PSTN interconnection. It was almost indistinguishable from resale, except that the home provider, rather than the host provider, supplied the user identity mechanism and arranged for authentication. Roaming billing and clearinghouse was also slightly different from typical MVNO billing.

⁹ GSMA distinguishes between IMS interoperation in the roaming context and IMS "interworking" between home networks. GSM Association Official Document IR.65 - IMS Roaming and Interworking Guidelines provides the standards for roaming in part 2. Interworking between home networks is covered in parts 3-4. The recent *RTT Order* adopted rules that require IMS interworking as necessary to ensure that Real Time Text will work across networks. *In the Matter of Transition from TTY to Real-Time Text Technology, Petition for Rulemaking to Update the Commission's Rules for Access to Support the Transition from TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology*, CG Docket No. 16-145, GN Docket No. 15-178, Report and Order and FNPRM, FCC 16-169, ¶¶ 27-31, __ FCC Rcd __ (rel. Dec. 16, 2016)

In the roaming context the roamer's home network can perform the IMS interworking with other home networks. This means that a roamer will be able to use interworked RTT through the home carrier's compliance with the new RTT requirements. Neither the roamer nor the host carrier will be dependent on the host (visited) network for compliance.

The most prevalent method for LTE roaming in the U.S., however, does not at all resemble resale. When a home carrier obtains LTE roaming via the currently prevailing method, the home carrier is not “reselling” the host carrier’s finished service, in any manner. Instead, from a technical perspective it more resembles network to network interconnection, with the host RAN operating in a fashion somewhat akin to a temporarily leased radio link. It is mostly just transmission. The home network supplies all needed switching, features and functions and any required interconnection to other networks. The user device authenticates on the host (visited) RAN and an IP-based communications session is established that runs from the user device through the visited RAN and across an interconnection to the home provider’s own LTE core. The home provider then supports all user applications and supplies any needed interconnection to and interoperation with the legacy public switched network, other networks, or the Internet. Everything is IP, and all traffic – whether voice, text, video, email or accessing a news site on the public Internet – looks like “data” to the visited network because the visited network does not have “service awareness.”

The prevailing LTE roaming architecture in the U.S. uses one of the three GSMA basic standards described in “IR 65.”¹⁰ Specifically, it employs GSMA standard IR.65, Figure 2-3: “UE Accessing IM CN Subsystem Services with P-GW/GGSN in the Home network” arrangement, with no “Local Break Out.” What follows is a reproduction of Figure 2-3:

¹⁰ GSM Association Official Document IR.65 - IMS Roaming and Interworking Guidelines (January, 2016), available at <http://www.gsma.com/newsroom/wp-content/uploads/IR.65-v18.02.pdf>.

Figure 2-3 depicts a model where the UE has obtained IP connectivity from the Home Service Provider's network and the Home Service Provider provides the IMS functionality.

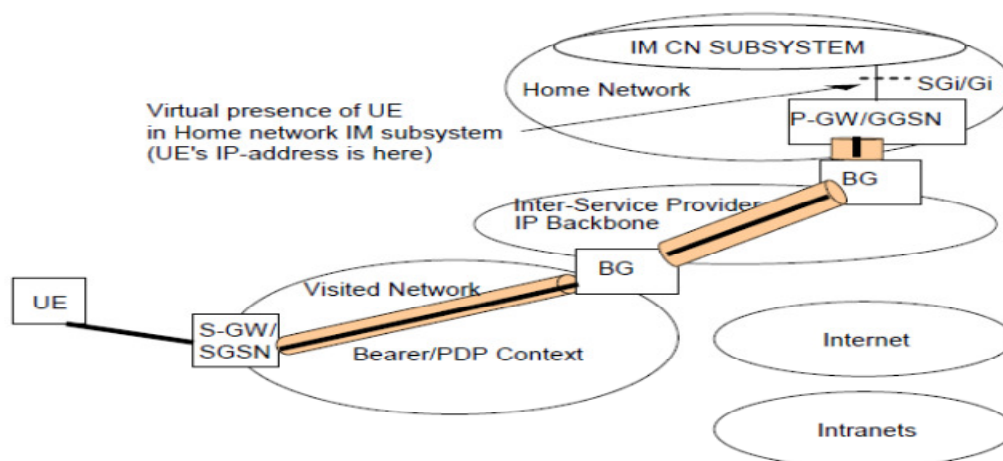


Figure 2-3: UE Accessing IM CN subsystem Services with P-GW/GGSN in the Home network

This method uses only the host (visited) carrier's RAN, Signaling Gateway and Border Gateway,¹¹ and does not require any interoperation with the host (visited) carrier's own IMS, servers, or Policy and Charging Rules Function (PCRF).¹² The home carrier supplies the IP number to the user's mobile equipment (UE), all "native dialer" communications application functionality (such as VoLTE, SMS/MMS and TTY/RTT) and any needed interconnection to and interoperation with other public networks.

¹¹ A roaming user's equipment (UE) connects to the radio access network (E-UTRAN), Mobility Management Entity (MME) and serving gateway (S-GW) of the visited (host) LTE network, and all data is delivered to the home carrier over an "s8" interface. There is also an "s6a" connection between the home carrier's Home Subscriber Server (HSS) and the host (visited) carrier's MME.

¹² GSMA Official Document FCM.01 - VoLTE Service Description and Implementation Guidelines (March, 2014) describes the PCRF in part 2.1.3.5: "PCRF (Policy Charging and Rules Function). The PCRF provides policy control decisions and flow based charging controls. The PCRF determines how a service data flow shall be treated in the enforcement function (PGW in this case) and ensure that the user plane traffic mapping and treatment is in accordance with the user's profile."

Depending upon the software enabled and loaded in the smartphone, the VoLTE server can provide its voice service over any IP connection. VoLTE is independent of the actual RAN used to connect the device to the server. The underlying RAN does not even need to “know” what application (voice, text, Internet or something else) is being used. VoLTE is an IP-based “data” application that is hosted at a server that works with a user software client residing in a multi-functional mobile device; it does not involve a TDM switch that drives communications with a voice-only device. From a network perspective, the “voice” session is merely the particular way the user is enjoying the capabilities of the underlying IP-based digital data capabilities and the underlying “last mile” radio access transmission network.

Although GSMA has crafted all of the necessary standards, protocols, and information exchange requirements for full IMS interoperability between the host (visited) and home network and for the visited network (rather than the home network) to perform the routing to other public networks,¹³ none of the carriers Evolve has dealt with for direct roaming currently support “VoLTE roaming” or even robust IMS interconnection for roaming. Evolve can, does and will nonetheless support its VoLTE services to its customers completely independent of whether any visited LTE RAN network supports VoLTE or other voice and texting interworking, has service awareness or can grant priority quality of service. In other words, Evolve’s VoLTE does not

¹³ Some of the pertinent official GSMA documents related to roaming and network to network interworking include GSM Association Official Document IR.65 - IMS Roaming and Interworking Guidelines (Jan. 2016), available at <http://www.gsma.com/newsroom/wp-content/uploads/IR.65-v18.02.pdf>; GSM Association Official Document IR.88 - LTE and EPC Roaming Guidelines (Feb. 2016), available at <http://www.gsma.com/newsroom/wp-content/uploads/IR.88-v14.04.pdf>; GSM Association Official Document IR.90 - RCS Interworking Guidelines (May 2016), available at <http://www.gsma.com/newsroom/wp-content/uploads/IR.90-v13.0-2.pdf>; GSM Association Official Document IR.92 - IMS Profile for Voice and SMS (May, 2016), available at <http://www.gsma.com/newsroom/wp-content/uploads/IR.92-v10.0.pdf>; GSM Association Official Document IR.94 - IMS Profile for Conversational Video Service (Oct. 2015), available at <http://www.gsma.com/newsroom/wp-content/uploads/IR.94-v10.0.pdf> and Official Document NG.103 - VoLTE – RCS Roaming and Interconnection (Footnote Continued on Next Page)

require anything more than the original basic LTE roaming that was made available around 2010 – without “local breakout” – to work in satisfactory fashion.

Evolve has not sought to require that any potential roaming partner interconnect or interwork the IMS functions that are necessary for host (visited) network call control or routing to the public switched network, other networks or the Internet. Evolve will, of course, be pleased to talk to any that do wish to more fully interoperate with Evolve’s IMS by allowing the exchange of more information over the two parties’ GSMA IR.65 based s6a interface between their respective MMEs and HSSs and supplementing or replacing the basic s8 interface with an s9 between the parties respective PCRFs.¹⁴ When they are ready, presumably our roaming agreements will be amended to provide for the different connections and take advantage of the enhanced capabilities that will be possible.

(Footnote Continued)

Guidelines (May, 2015), available at <http://www.gsma.com/newsroom/wp-content/uploads/NG.103-v1.0.pdf>.

¹⁴ A roaming user is connected to the basic radio access network (E-UTRAN), Mobility Management Entity (MME) and serving gateway (S-GW) of the visited (host) LTE network under all configurations. The type of circuit between the carriers can change depending on the extent to which the two carriers want their respective PCRFs to interoperate and if the two carriers want to implement “local break out.” There is always an s6a connection between the host MME and the home HSS. There is also usually an s8 connection s8 between the home P-GW and the visited S-GW. If local breakout capability (LBO-HR or LBO-VR) for media is desired the two carriers establish an s9 circuit between their PCRFs in addition to or as a replacement of the s8. When the two carriers decide to enable LBO-VR the service architecture evolution gateway (SAE) allows the packet data network gateway (P-GW) of the visited or the home network to supply access to the public switched network or Internet.

No carrier with whom Evolve has negotiated for direct roaming has offered to implement LBO and certainly not LBO-VR. To be specific, each domestic carrier Evolve has negotiated with for direct roaming has stated the only permissible option is that depicted in IR.65, Figure 2-3: “UE Accessing IM CN subsystem Services with P-GW/GGSN in the Home network.” Under that option the home network always maintains the user equipment’s IP address in the home network’s IMS.

B. The type of roaming being supplied is controlled entirely by what the end user can do while roaming and does not change based on the functions the host (visited) carrier performs in addition to basic RAN access. If an end user can “originate or terminate a call” while roaming on an LTE network then the host network is supplying automatic roaming.¹⁵

Section 20.12(a)(2)¹⁶ contains a “scope formulation”¹⁷ that determines what mobile providers are subject to the automatic roaming requirement. If a carrier offers a retail service that meets the Section 20.12(a)(2) “scope formulation,”¹⁸ then that carrier must *also* allow compatible home carriers to request wholesale automatic roaming in order to prearrange the home carriers’ users’ ability to “automatically” “originate or terminate a call” while roaming on a host network.¹⁹

¹⁵ The applicability of Section 20.12(a)(2) and (d) to VoLTE is presently before the Commission a pending roaming complaint case. *In the Matter of Worldcall Interconnect, Inc. a/k/a Evolve Broadband, Complainant v. AT&T Mobility, LLC, Defendant*, Order, EB Docket No. 14-221, File No. EB-14-MD-011 (Application for Review pending). Since that is a restricted proceeding Evolve will separately serve these comments on AT&T Mobility in conformance with the Commission’s Part 1, Subpart H rules.

¹⁶ (2) Scope of automatic roaming. Paragraph (d) of this section is applicable to CMRS carriers if such carriers offer real-time, two-way switched voice or data service that is interconnected with the public switched network and utilizes an in-network switching facility that enables the carrier to re-use frequencies and accomplish seamless hand-offs of subscriber calls. Paragraph (d) of this section is also applicable to the provision of push-to-talk and text-messaging service by CMRS carriers.

¹⁷ The Commission held that Section 20.12(a)(2) was intended to provide a “scope formulation” in the *Automatic Roaming Reconsideration Order*. See *In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Serv. Providers & Other Providers of Mobile Data Servs.*, Order on Reconsideration and Second Further Notice of Proposed Rulemaking, 25 FCC Rcd 4181, 4184, ¶ 6 and note 12 (2010) (“*Automatic Roaming Reconsideration Order*”), citing to the discussion in *Automatic Roaming Order* ¶¶ 2, 8, 11, 23, 29, 54 explaining that the 20.12(a)(2) “scope” used a “formulation” derived from the original manual roaming rule “scope” in 20.12(a)(1).

¹⁸ The *Automatic Roaming Order* was quite explicit that the obligation to provide wholesale automatic roaming requirement applies – or does not apply – based on whether the provider offered a “covered” retail or “mass-market” service. See ¶ 29 (“...This ensures that all CMRS providers competing in the mass market for real-time, two-way voice and data services are similarly obligated to provide automatic roaming services, thereby equally benefiting all subscribers of mobile telephony services who seek to roam seamlessly over CMRS networks.”) (emphasis added)

¹⁹ Section 20.12(a)(3) separately determines which mobile carriers must offer “roaming arrangements for commercial mobile data service.” It has a *different* “scope formulation” but it too is based on a whether a “facilities-based provider” offers retail “commercial mobile data services” as defined in Section 20.3. If a provider offers retail commercial mobile data service then that provider must *also* offer wholesale roaming arrangements so other retail providers can support their own retail mobile broadband Internet access.

Section 20.12(a)(2) sets out who must provide automatic roaming, but it does not define what automatic roaming *is*. That work is done through two definitions in Section 20.3²⁰ and then Section 20.12(d),²¹ which define what automatic roaming is and entails. The definition of “automatic roaming” does not require the “host” (visited) network to provide public switched network interconnection to the roamer; it just says that if the roamer can “originate or terminate a call” “without taking any special action” the roamer is receiving, and the host network is providing, automatic roaming.

This is precisely what occurs under the prevailing current method of LTE roaming and current VoLTE calling. The host (visited) network supplies RAN access and transmission to the home provider. The home provider then does the rest of the work through “home routing.” The home provider supports the roaming user’s VoLTE client through the home VoLTE server and then provides any needed interconnection with the public switched network. The roaming VoLTE user can “originate or terminate a call” “without taking any special action.” Therefore, the host (visited) network is providing “automatic roaming.”

²⁰ The two relevant Section 20.3 definitions are those for “automatic roaming” and “host carrier”:

Automatic Roaming. With automatic roaming, under a pre-existing contractual agreement between a subscriber’s home carrier and a host carrier, a roaming subscriber is able to originate or terminate a call in the host carrier’s service area without taking any special actions.

Host Carrier. For automatic roaming, the host carrier is a facilities-based CMRS carrier on whose system another carrier’s subscriber roams. A facilities-based CMRS carrier may, on behalf of its subscribers, request automatic roaming service from a host carrier.

²¹ (d) Automatic roaming. Upon a reasonable request, it shall be the duty of each host carrier subject to paragraph (a)(2) of this section to provide automatic roaming to any technologically compatible, facilities-based CMRS carrier on reasonable and not unreasonably discriminatory terms and conditions, pursuant to Sections 201 and 202.

of the Communications Act, 47 U.S.C. 201 and 202.

C. The Commission has *already* classified retail VoLTE based service as the specific type of CMRS service that meets the scope formulation in Section 20.12(a)(2).

The draft NPRM correctly notes that the Commission has not expressly “classified” VoLTE from a wholesale roaming perspective. But it does not have to do so. The wholesale automatic roaming obligation already applies to LTE-based RANs if they are used to provide retail VoLTE. The Commission has already definitively ruled in several prior decisions that retail VoLTE meets the exact same “scope formulation” contained in Section 20.12(a)(2).

1. Section 20.12(a)(2) uses the same scope formulation as is used for 20.18(a)(1) (911) and 20.19(a)(1) (HAC) for retail services.

Section 20.12(a)(2) employs exactly the same “scope formulation” as 20.18(a)(1) and 20.19(a)(1).²² Any network provider offering a service subject to Section 20.18(a)(1) and 20.19(a)(1) is by definition also subject to Section 20.12(a)(2). AT&T and Verizon have both admitted that their retail VoLTE services meet the multi-purpose “scope formulation” used for Sections 20.12(a)(1) and (2), 20.18(a)(1) and 20.19(a)(1). The Commission has affirmatively ruled that retail VoLTE meets the multi-purpose scope formulation. Since the precedent is clear that retail providers of VoLTE-based CMRS are subject to Sections 20.18(a)(1) and 20.19(a)(1),

²² The Commission expressly noted in the *Automatic Roaming Reconsideration Order*, 25 FCC Rcd 4184, ¶ 6 and note 12 that the retail offering “scope formulation” for Section 20.12(a)(2) is exactly the same as that used for 911 (20.18(a)(1)) and HAC (20.19(a)(1)):

Regarding the scope of the automatic roaming obligation, the Commission found that the services covered by the automatic roaming obligation are the same services that had expressly been subject to manual roaming and other regulatory obligations – namely, real-time, two-way switched voice or data services, provided by CMRS carriers, that are interconnected with the public switched network and utilize an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls.^[note 12]

^[note 12] 47 C.F.R. § 20.12(a)(2). The Commission has used this formulation to define the scope of CMRS carriers, and services subject to certain regulatory obligations, including E911, 47 C.F.R. § 20.18(a), Hearing Aid Compatibility, 47 C.F.R. § 20.19(a), and manual roaming, 47 C.F.R. § 20.12(a).

they are also subject to Section 20.12(a)(2) and must host wholesale automatic roaming so that roamers can “originate or terminate a call” on LTE networks using their home provider’s VoLTE service. That means no rule change is necessary; indeed the Commission would have to take affirmative action to eliminate the obligation. It has not done so.

2. AT&T and Verizon have both admitted their VoLTE offerings meet the scope formulation in Section 20.12(a)(2).

AT&T Mobility has admitted that its retail VoLTE-based service meets the multi-purpose scope formulation and is subject to the 911 and HAC rules that apply to CMRS.²³ Verizon Wireless has also recognized that the rules for this subset of CMRS services apply to its own

²³ AT&T’s petition for waiver expressly admitted that Rule 20.18(c) – which applies only to interconnected CMRS service – applied to its then contemplated VoLTE service, and requested relief from that rule. Petition of AT&T Services, Inc. for Waiver, PS Docket Nos. 10-255 and 11-153, WC Docket No. 04-36, CG Docket Nos. 03-123 and 10-213, pp. 2-6 (filed June 12, 2015) (notes omitted, emphasis added):

Concurrently, AT&T and its competitors rapidly are deploying IP-based calling solutions, such as Wi-Fi calling and Voice over LTE (“VoLTE”). Verizon recently announced that by the end of this year or early next year, the carrier will transition to a VoLTE-only network. T-Mobile and Sprint have deployed and are widely advertising Wi-Fi calling across their networks, and AT&T hopes to begin to offer its own Wi-Fi calling service later in 2015.

...

Unfortunately, Commission accessibility rules, including Sections 20.18(c) and 64.603, continue to require TTY support for devices and services, which discourages the development and deployment of new VoIP technologies, including accessibility functions like RTT. This puts AT&T in a conundrum, faced with rules that require TTY support for VoIP networks and an antiquated TTY technology that will not reliably work on those VoIP networks. Consequently, AT&T seeks a temporary waiver of Commission Rule Sections 20.18(c) and 64.603, during the rule change proceeding and until RTT is deployed, to resolve this problem and allow AT&T to offer VoIP services that are technically incapable of reliably supporting TTY.

...

In furtherance of its efforts to deploy wireless IP-based voice services, including VoLTE and Wi-Fi calling services, AT&T respectfully requests a waiver of the following rules:

1. Section 20.18(c),¹¹ which requires commercial mobile radio service (“CMRS”) providers to transmit 911 calls through means other than the mobile radio handset, e.g. TTY, the only current means to meet this requirement;

...

For example, AT&T would be free to deploy efficient VoLTE networks in areas that are currently unserved and to offer Wi-Fi calling to enhance its conventional CMRS voice networks, including in areas that are challenging to serve (and, accordingly, difficult to provide TTY), such as deep indoors, underground, and remote parts of the country.

retail VoLTE service.²⁴ These carriers have admitted that their retail VoLTE offerings meet the Section 20.18(a)(1) and 20.19(a)(1) scope formulation, so they cannot contend that their retail VoLTE offerings do not also meet the Section 20.12(a)(2) test – since it is the same.

3. The Commission has already held that VoLTE meets the scope formulation in Section 20.12(a)(2).

The Commission has already resolved the question in any event. VoLTE-based retail services have been expressly held subject to both Section 20.18(a)(1) and 20.19(a)(1) on several occasions.²⁵ Indeed, a recently adopted amendment to Section 20.18(c)(1) expressly refers to “CMRS providers that provide voice communications over IP facilities.”²⁶ The *RTT Order* references “CMRS providers” 39 times, and the applicability to CMRS is discussed in multiple

²⁴ Verizon’s “me-too” petition for waiver requested that the Commission “grant the same relief as was previously afforded to AT&T” regarding Verizon’s VoLTE service. Verizon Petition for Waiver, GN Docket No. 15-178, n. 4 and p. 4 (filed Oct. 23, 2015).

²⁵ See *Amendment of the Commission’s Rules Governing Hearing Aid-Compatible Mobile Handsets*, WT Docket No. 07-250, Third Report and Order, 27 FCC Rcd 3732, 3737-3740, ¶ 17 (2012) (*Third Report and Order*). (providing accommodation for the testing of VoLTE for inductive coupling); Office of Engineering and Technology, Laboratory Division, Guidance for Performing T-Coil tests for Air Interfaces Supporting Voice over IP (e.g., LTE and Wi-Fi) to support CMRS based Telephone Services (Oct. 31, 2013), <https://apps.fcc.gov/kdb/GetAttachment.html?id=unTjPJBfcYUxDO2czc1S8g%3D%3D> (extending the same to WiFi Calling). The most recent OET Guidance on this topic expressly notes that it applies *only* to CMRS based VoLTE services. Office of Engineering and Technology, Laboratory Division, Guidance for Performing T-Coil Tests for Air Interfaces Supporting Voice Over IP (e.g., LTE And Wi-Fi) to Support CMRS Based Telephone Services, April 26, 2016, https://apps.fcc.gov/kdb/GetAttachment.html?id=NidZ3YsHKuEr69aOwLspvQ%3D%3D&desc=285076%20D02%20T-Coil%20testing%20for%20CMRS%20IP%20v02&tracking_number=36388 (“For this document, Wi-Fi Calling means enabling CMRS based Telephone Services over Internet services using Wi-Fi access”).

²⁶ *In the Matter of Transition from TTY to Real-Time Text Technology, Petition for Rulemaking to Update the Commission’s Rules for Access to Support the Transition from TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology*, CG Docket No. 16-145, GN Docket No. 15-178, Report and Order and FNPRM, FCC 16-169, __ FCC Rcd __ (rel. Dec. 16, 2016) (emphasis added):

(c) Access to 911 services.

1) CMRS providers subject to this section must be capable of transmitting 911 calls from individuals with speech or hearing disabilities through means other than mobile radio handsets, e.g., through the use of Text Telephone Devices (TTY). CMRS providers that provide voice communications over IP facilities are not required to support 911 access via TTYS if they provide 911 access via real-time text (RTT) communications, in accordance with 47 CFR Part 67, except that RTT support is not required to the extent that it is not achievable for a particular manufacturer to support RTT on the provider’s network.

paragraphs.²⁷ The Commission did not seek comment in the NPRM on whether the use of “IP” somehow exempts a mobile service from common carriage subject to Title II, and renders it “not CMRS” for any purposes²⁸ and, as far as Evolve can determine, no commentor claimed that it does. The Commission certainly did not so hold in the *RTT Order*. It is clear, therefore, that using an IP-based network to provide commercial mobile service does not transmute an interconnected, common carrier, commercial mobile (telecommunications) service into private carriage or non-telecommunications for purposes of testing whether any service meets the “scope formulation” in Sections 20.18(a)(1), 20.19(a)(1) or 20.12(a)(2).

Retail VoLTE “offers real-time, two-way switched voice service that is interconnected with the public switched network, and utilizes an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls.” The Commission has repeatedly so ruled, and no carrier has argued, in any case, that it does not. Since Section 20.12(a)(2) uses the same “scope formulation” as Sections 20.18(a) and 20.19(a)(ii), every retail VoLTE provider – in addition to meeting its retail regulatory obligations – must “host” LTE-based wholesale “automatic roaming” for other facilities-based carriers.

D. The forbearance grant in the *Open Internet Order* does not exempt VoLTE from the automatic roaming rule.

Automatic roaming treatment for the services addressed in Section 20.12(a)(2) is not impacted by the forbearance granted in the *Open Internet Order* that retains the old commercial

²⁷ See ¶¶ 2, 6, 21, 43, 50, 55, 66-68. Rule 20.18 is entirely dedicated to CMRS providers that fall within the scope formulation in 20.18(a)(1).

²⁸ *In the Matter of Transition from TTY to Real-Time Text Technology Petition for Rulemaking to Update the Commission’s Rules for Access to Support the Transition From TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology*, Notice of Proposed Rulemaking, CG Docket No. 16-145, GN Docket No. 15-178, FCC 16-53, 31 FCC Rcd 6247 (rel. Apr. 2016).

mobile data service rule and standard for “mobile broadband Internet access.”²⁹ VoLTE was subject to 20.12(a)(2) before that grant, and VoLTE is not broadband Internet access as defined at Section 8.2(a) or mobile broadband Internet access as defined at Section 8.2(e).

The fact that the visited host carrier is not providing the voice capability or the PSTN interconnection under the method predominantly used in the U.S. does not change a thing. The user is still receiving an interconnected service (provided by the home carrier). The user “is able to originate or terminate a call” (using the visited RAN and the home carrier’s own VoLTE server), so it is still automatic roaming as defined in Section 20.3. Nor does the fact that the visited carrier does not know that a voice service is being used turn this type of automatic roaming into “data roaming.” Host carrier knowledge is irrelevant under the definition.

Under the prevailing GSMA-based LTE roaming architecture used today, the host carrier does not provide public IP numbers or directly provide the connectivity to the public Internet to the retail user (or the home carrier).³⁰ The host (visited) carrier is clearly *not* providing mobile broadband Internet access as defined in Section 8.2(e) of the Commission’s rules because that definition only covers providers that hand out the public IP address and operate the gateway to the “public” Internet.³¹

²⁹ *Open Internet Order* ¶¶ 525-526. *See also Nineteenth Report* ¶ 104 (“In the 2015 *Open Internet Order*, the Commission granted limited forbearance from application of the CMRS roaming requirements to mobile broadband Internet access service (MBIAS) providers, conditioned on such providers continuing to be subject to the data roaming rule.”) (emphasis added)

³⁰ The only time the visited network assigns the user agent’s IP number and also provides the gateway function to the Internet is under Local Breakout Visited Network Routing (LBO-VR), using GSMA IR.65, Figure 2-1: “UE Accessing IM Subsystem Services with P-GW/GGSN in the Visited network via Visited Network IM subsystem.” That method has not been offered or suggested by any of the carriers with whom Evolve has negotiated.

³¹ *See Open Internet Order* ¶ 48 and Section 20.3 “public switched network” definition reference to “public IP addresses.”

Finally, roaming is a wholesale service, not a “mass market retail service” provided to either the roamer or the home network provider. That separately means the visited network is not providing “broadband Internet access” as defined in Section 8.2(a) or “mobile broadband Internet access” as defined in Section 8.2(e). The forbearance grant on its face does not apply.

That means a rule change is not necessary to accomplish the goal of ensuring that users can use their VoLTE clients when they roam. Some, however, continue to assert that the automatic roaming rule does not already apply to VoLTE based on what the host (visited) network does and does not do. The Commission or Wireless Telecommunications Bureau can and should issue a *sua sponte* Declaratory Ruling – in this proceeding, the *Open Internet Order* proceeding or both – that the automatic roaming rule applies and the forbearance for mobile broadband Internet access does not apply in order to remove all doubt and end this controversy. That will entirely fulfill the stated goal of ensuring that users can employ the VoLTE capabilities in their device client when they roam on a host LTE network.

IV. The Commission Does Not Need to Require that Host (Visited) LTE Network Providers Directly Provide VoLTE or Other IMS-based Applications to Roamers’ Devices and VoLTE clients Through Local Breakout – Visited Network Routing (LBO-VR).

In order to require “VoLTE roaming” using the older roaming model for analog, 2G and 3G networks, the Commission would have to mandate that host carriers support full network-to-network IMS interoperation, and then also require that all carriers implement local breakout with visited network routing (LBO-VR). Only at that point will the visited (host) carrier be service aware and recognize when the roamer is trying to make a “voice” call or send a text. Then the host carrier can directly handle the call or text through its own VoLTE or texting server, process

the call/text across its various gateways and out to the world, and then bill the other carrier for any associated “minutes” or “SMS.”

But while this is technically feasible – since GSMA has adopted all the required standards – that is not how it is done today, and it is not necessary in order to allow roamers to use the VoLTE client on their on smartphones and “originate and receive calls.” The home carrier can simply continue the current use of basic roaming and keep relying on its own VoLTE servers to support the user and the calls.

Evolve in particular prefers to handle the switching and processing. This allows Evolve to apply the extensive advanced customizations in Evolve’s core that are superior to what other competing carriers – including those that will provide RAN roaming – have deployed to date. We are quite happy with the current basic arrangement, because it allows Evolve to directly support its users’ VoLTE client. Evolve also prefers to not be dependent on host providers’ processing and routing for regulatory compliance with the Commission’s rules involving matters like RTT, 911 and HAC.

The Commission should encourage providers to engage in more robust IMS interoperation and interworking for roaming and general communications between home networks. A regulatory mandate that all carriers support service aware roaming, however, is not needed for roamers to be able to originate or receive voice calls or texts on LTE networks. As noted, LTE roaming is done differently than roaming on older analog, digital 2G, 3G or CDMA networks. If a user with the home carrier’s supplied VoLTE client can automatically obtain access through the visited LTE RAN, that user can already send or receive VoLTE based calls or texts. The host carrier merely needs to authenticate the user on the visited RAN and then

establish the same IP-based data connection back to the host carrier's network as is used today for all other roaming activity, including Internet access. The home carrier's network provides the VoLTE and text. The home carrier supplies the interconnection to the public switched network – whether public Internet or legacy NANPA based.

Service Aware Roaming would be a nice option, especially now that Rich Communications Services with many new features and capabilities are becoming available. But it is not essential at the present time merely so that users can obtain VoLTE based voice service, or send and receive texts, when they roam. What is essential is that the Commission recognize through a Declaratory Ruling that the automatic roaming rule in Section 20.12(d) **already** applies to users' roaming sessions that involve use of their home carrier provided interconnected LTE-based voice or data (texting/SMS) service. Since Section 20.12(e) does not apply on its face and the forbearance for Internet access does not apply, clarifying that Section 20.12(d) – the only alternative – does apply would remove any current uncertainty.

V. Regulation Is Still Required Because There is Not A Working and Competitive Roaming Market.

There is no working and competitive “roaming” market. Regulatory backstops are still necessary to ensure that small and rural providers that do not have and will never have their own nationwide facilities-based networks will have access to roaming and be able to provide a competitive service to their facilities-based customers. The current situation is also not working because the Commission's orders promulgating the roaming rules and the rules themselves do not provide clarity concerning goals, desired outcomes or how the stated evaluation factors for reasonableness should be applied in negotiations or complaints. The argument over whether there should be one or two standards (just and reasonable alone, or in combination with commercial

reasonableness for some roaming applications) obscures far deeper problems. While the “standard” and what it represents are important, there are more serious questions and concerns.

A. There is not a working competitive roaming market.

The Commission’s first seven CMRS reports, the *Fourteenth Report* and each subsequent report, including the *Nineteenth Report*, did not reach an overall conclusion or formal finding regarding whether or not the CMRS marketplace was “effectively competitive.”³² There are various segments within the CMRS marketplace, and each has its own level of competitiveness. Regardless of what one thinks about the competitiveness of the CMRS marketplace as a whole, the nationwide wholesale roaming “market” or segment is not competitive at all, much less workably or effectively competitive.

There are only four providers with extensive footprints and, while each is said to be a “nationwide” provider,³³ Sprint and T-Mobile still have significant coverage gaps to the point that a small carrier cannot use either or both of them and entirely fulfill all roaming needs. Only two (AT&T and Verizon) have sufficient built-out coverage.³⁴ The most-often used term for AT&T and Verizon is that those two are “must-have” roaming partners. AT&T and Verizon, however, are both extremely hostile to roaming and they do not significantly compete with each other or make much effort to compete between themselves for hosting roaming business through

³² *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Nineteenth Report, DA 16-1061, ¶ 4 __ FCC Rcd __ (WTB 2016) (“*Nineteenth Report*”).

³³ *Nineteenth Report* ¶ 7.

³⁴ There is a relatively new roaming “IPX hub” that aggregates a group of willing roaming hosts through a central arrangement that could – ultimately – form a competitive alternative. But the hub is not yet an adequate substitute for direct access to AT&T’s and Verizon’s networks. Evolve has also encountered the below-described issues regarding unlicensed service and roaming rights for customers served in newly constructed coverage areas during its efforts to employ the IXP hub rather than direct roaming with the major nationwide providers, largely because a nationwide provider demanded that those restrictions be included in the IPX hub contract.

price or other important aspects of a roaming arrangement.³⁵ They only provide roaming because they must under the Commission's rules, and would likely immediately cease doing so in the absence of any regulatory compulsion. These two carriers have significant market power and complete negotiating leverage. They will not voluntarily offer any terms, much less reasonable terms, absent a regulatory mandate.³⁶

There is not anything close to a working competitive market for nationwide roaming. To the extent there is a "market," it is entirely dysfunctional. Thus it is not reasonable – or even lawful – to base regulatory principles and rules on the assumption that there can be "market-based" and "arms-length" "negotiated" prices, terms and conditions to which the Commission can defer. The two dominant providers are using their market power to impose prices that are too high and terms that are unduly restrictive. While negotiation as the first step is entirely sensible, there must be a regulatory backstop, with clear *ex ante* requirements, stated goals, articulated desired outcomes and – above all – a definitive listing of the restrictions or conditions that can be imposed by the nationwide host provider. That is not what we have today.

B. The Commission needs to definitively resolve several questions about its desired outcomes and goals.

Evolve (like every facilities-based provider) must negotiate arrangements that allow its facilities-based customers to "roam" when the user cannot access Evolve's own LTE-based RAN

³⁵ The Commission has expressly noted that Verizon has "little incentive to provide the roaming capability necessary for competitors with less than national footprints." *In re Cellco P'ship et al*, Memorandum Opinion and Order, 27 FCC Rcd 10698, 10730, ¶ 84 (2012). The Commission expressed similar sentiments with regard to AT&T. *In re AT&T Inc.*, Memorandum Opinion and Order, 26 FCC Rcd 16184, 16239-16241, ¶¶ 102-105 (2011).

³⁶ *Data Roaming Order* ¶ 27. ("Based on the record before us, we find it likely that these providers will not be willing to offer roaming arrangements that cover these networks any time in the near future, except in very limited circumstances. We agree with many of the commenters that, given the coverage of these nationwide providers, there is a serious risk they might halt the negotiations of roaming on their advanced mobile data networks altogether in the future in the absence of Commission oversight, harming competition and consumers.")

coverage. Evolve has dedicated several years to roaming negotiations, and this experience has revealed several significant unanswered questions regarding the Commission's policies, goals and administration of the roaming rules. The Commission should consider seeking comment on the questions raised in this Part V.B and then resolve them in this proceeding.

1. Should the rules encourage roaming, or should it be limited in availability and expensively priced?

The *raison d'être* of the roaming rules is to ensure that users' expectations regarding seamless nationwide availability of their mobile service are met, including when the home carrier's network is not available. This is evident from the 2007 *Automatic Roaming Order*,³⁷ the 2010 *Automatic Roaming Reconsideration Order*³⁸ and the *Data Roaming Order*.³⁹ The rules were promulgated almost entirely because the smaller regional and rural carriers were experiencing significant obstacles in their efforts to obtain voluntarily negotiated roaming arrangements.

One would think, therefore, that the Commission wants to encourage roaming availability and actual use, and does not desire a situation where roaming is facially permitted but in actuality so costly and limited that it is nonetheless practically unavailable for most users serviced by smaller carriers. Yet that is the situation today, and it arises because the nationwide carriers consistently attempt to constrain availability. For example, the rates available to Evolve are so high that Evolve has determined that it must disable its users' Internet access capability and throttle all other non-voice and text data use when they roam. All roaming will involve only

³⁷ *Automatic Roaming Order*, 22 FCC Rcd at 15828-15829, 15837, ¶¶ 27-28, 55

³⁸ *Automatic Roaming Order Reconsideration Order*, 25 FCC Rcd at 4198-4199 ¶ 34.

³⁹ *Data Roaming Order*, 26 FCC Rcd at 5416, 5418-5419, 5420, 5442, ¶¶ 11, 15, 17, 63.

voice, texting and other low bandwidth consumption interconnected products like Machine-to-Machine communications. Otherwise Evolve would pay more for roaming alone than it can charge for its entire bundled retail service, including the home network provided portion. Evolve does not believe that this was what the Commission intended, or wants. If it is, please be transparent enough to tell the small providers and we can focus solely on niche markets and not attempt to compete for any nationwide service which must use some amount of seamless nationwide roaming.

The public comments by many other small carriers indicate that they too cannot offer a viable seamless nationwide product. Many wireless carriers advised the Commission after the *Data Roaming Order* that the large carriers were still abusing their market power and there is not a workably competitive “roaming market.” Many had to make the difficult decision to sign an adhesion contract because they cannot afford to litigate, or believe the complaint process will not provide meaningful relief.⁴⁰ Virtually the entire set of carriers other than AT&T and Verizon

⁴⁰ Blooston Rural Carriers 05-265 Reply Comments, pp. 2-3 (August 20, 2014), available at <https://ecfsapi.fcc.gov/file/7521783032.pdf>:

The data roaming market has not developed as the Commission intended when it adopted its *Data Roaming Order* in 2011, and a lack of access to data roaming services on commercially reasonable terms and conditions is hampering the ability for small, mid-tier and regional carriers to compete in the marketplace as the FCC intended.

...

A persistent inequity in bargaining power has left small and regional wireless carriers with little hope of securing data roaming agreements, much less reasonable data roaming terms and conditions. In those instances where small and regional carriers have been successful in securing data roaming rights, the likelihood that most carriers have been forced to accept data roaming terms and conditions on a “take it or leave it” basis rather than true arms-length negotiation means that existing agreements cannot be used as a basis for what is commercially reasonable in future agreements.

CCA Docket 05-265 Reply Comments, pp. 2, 4-7, 9 (August 20, 2014) available at <https://ecfsapi.fcc.gov/file/7521785689.pdf>:

Industry experience demonstrates that the standard adopted is not working as intended. All commenters, aside from AT&T and Verizon, denounce the wholesale roaming market as uncompetitive. Several commenters describe the challenges they face in obtaining data roaming in regions where it is most needed, which suggests that AT&T and Verizon have used the ambiguity

(Footnote Continued on Next Page)

present the same picture and status: uniform resentment and dissatisfaction by small companies who had no choice but to capitulate to adhesion contracts containing excessive prices and stultifying, restrictive terms that more resemble suicide pacts than arms-length contracts between two willing partners. This was repeated in early 2016 during the comment cycle addressing

(Footnote Continued)

in the “commercially reasonable” standard to impede negotiations and to preclude roaming arrangements. In other instances, AT&T and Verizon have used their dominant positions as providers of nationwide roaming capabilities to strong-arm small carriers into executing data roaming arrangements containing commercially *unreasonable* terms. Competitive carriers also have suffered the same experience that T-Mobile describes in the Petition of being forced in certain cases to limit or cap roaming because of the exorbitant rates charged by the home carrier.

NTCA Docket 05-265 Reply Comments, p. 2 (August 20, 2014) available at <https://ecfsapi.fcc.gov/file/7521784660.pdf> (“[T]he wholesale roaming market is not competitive”).

RWA Docket 05-265 Reply Comments, pp. 3, 9, 13, 16 (August 20, 2014) available at <https://ecfsapi.fcc.gov/file/7521785060.pdf>:

The FCC’s policy objectives have been thwarted by dominant carriers with superior bargaining power who have taken advantage of the confusion surrounding what constitutes “commercially reasonable” data roaming terms and conditions. As a result, competition and rural consumers are suffering. Commercially unreasonable data roaming rates are forcing rural carriers to consider leaving the market or discontinue services to subscribers, are delaying carriers’ deployment of new infrastructure and services to rural America, and will eventually result in higher retail rates for rural consumers.

...

Faced with “take it or leave it” data roaming agreements with commercially unreasonable data roaming rates, terms and conditions, RWA members have been forced to accept such agreements, or refused to accept such terms, forcing them either to limit their customers’ ability to access certain larger carriers’ networks or continue to provide customers with essential nationwide data roaming services, but at a financial loss. If RWA members continue to provide their customers with nationwide plans under these scenarios, they will not be in business much longer.

...

RWA members who are small, rural carriers that seek data roaming agreements with AT&T are financially punished with commercially unreasonable data roaming rates that are likely to eventually push them out of the mobile data marketplace because they do not have the spectrum or the financial ability to build their own nationwide networks.

...

[I]f wholesale data roaming rates are not lowered, rural carriers face the prospect of (1) continuing to offer nationwide roaming to subscribers at competitive retail rates at a loss; (2) passing wholesale data roaming costs on to rural consumers through higher retail rates, which will likely result in the carrier going out of business because the carrier’s retail rates are not competitive; or do what Limitless was forced to do and (3) restrict subscriber access to certain networks. Any of these scenarios will likely result in the carrier going out of business.

AT&T's and Verizon's applications for review of the Wireless Telecommunications Bureau's Declaratory Ruling.⁴¹ Nothing meaningful has changed as a result of the *Data Roaming Order*.⁴²

The *Data Roaming Order* promised much, but it has to date delivered mostly wasted resources and prohibitive results. Evolve does not believe the FCC intended for the *Data Roaming Order* to be meaningless in terms of what it practically allows. But if we are wrong and the Commission was merely making a bunch of feel-good promises to small carriers with no intention to actually give them a genuine ability to compete, then Evolve respectfully requests that the Commission be candid enough to directly so state. All the small carriers can give up their aspirations regarding any ability to offer seamless nationwide service to their users. On the other hand, if (as we suspect) extortionate prices and restrictive terms that preclude any meaningful ability to provide a seamless nationwide product were not what the Commission wanted, then Evolve presents some affirmative recommendations below on how the current situation can be ameliorated *without bringing roaming for mobile broadband Internet access into Title II*.

Evolve's efforts have led to several questions – in addition to price – that determine whether roaming will be available at all to small providers. Some of the nationwide carriers have

⁴¹ *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Service*, Declaratory Ruling, 29 FCC Rcd 15423 (2014).

⁴² See, e.g., NTCA Opposition to Application for Review, p. 4 (Feb. 4, 2015) available at <https://ecfsapi.fcc.gov/file/60001026154.pdf>:

NTCA's members are small, rural mobile wireless providers that operate in discrete areas, typically unserved or underserved by AT&T and Verizon. These small providers do not, and in fact cannot, offer a national or regional footprint, but their rural consumers, like most mobile wireless consumers, rely on mobile data and expect to be able to use their devices for mobile data service wherever they are. Small providers must rely on data roaming to offer their customers reliable, competitive coverage. However, the market for data roaming is not competitive. Despite the Commission's *Data Roaming Order*, the industry's small and rural operators are still hampered by the actions of the nation's largest carriers. Consolidation in the wireless market has led to fewer potential roaming partners and increasingly unequal bargaining positions.

tried to restrict availability and actual use by contending that certain small providers are not eligible, or cannot use roaming above certain levels or to meet certain user needs.

2. Are all, or only some, facilities-based providers entitled to roaming, and must host carriers offer terms addressing future expansions of the requesting carrier's facilities-based coverage?

For automatic roaming, the current rules state that “[a] facilities-based CMRS carrier may, on behalf of its subscribers, request automatic roaming service from a host carrier”⁴³ and “[u]pon a reasonable request, it shall be the duty of each host carrier subject to paragraph (a)(2) of this section to provide automatic roaming to any technologically compatible, facilities-based CMRS carrier.”⁴⁴ Section 20.12(d) goes on to say that “[t]he Commission shall presume that a request by a technologically compatible CMRS carrier for automatic roaming is reasonable ... This presumption may be rebutted on a case by case basis.” Thus, the rules clearly allow a “technologically compatible, facilities-based CMRS carrier” to seek and obtain automatic roaming from a host carrier. Similarly, “[a] facilities-based provider of commercial mobile data services is required to offer roaming arrangements to other such providers ...”⁴⁵ but they may refuse to offer a roaming arrangement if the requesting provider is not “technologically compatible” or “it is not technically feasible to provide roaming for the particular data service for which roaming is requested and any changes to the host provider’s network necessary to accommodate roaming for such data service are not economically reasonable.”⁴⁶

⁴³ 47 C.F.R. Section 20.3 (definition of “host carrier”).

⁴⁴ 47 C.F.R. Section 20.12(d).

⁴⁵ 47 C.F.R. Section 20.12(e)(1).

⁴⁶ 47 C.F.R. Section 20.12(e)(1)(ii), (iii).

a. Does use of unlicensed and light-licensed spectrum disqualify a carrier from roaming rights?

Evolve has been involved in negotiations where the host carrier contended that, while Evolve is a facilities-based CMRS carrier or a provider of commercial mobile data service for some purposes (specifically, when Evolve provides service using its fully-licensed spectrum in CMA 667), it is *not* a facilities-based provider for those areas where Evolve is or will be employing leased licensed, unlicensed or light-licensed spectrum to provide the facilities-based radio access network coverage. These host carriers have stated that they will host roaming for Evolve's users that "reside" in CMA 667 and obtain service via Evolve's fully-licensed 700 MHz RAN. But these carriers have indicated that they will not agree to host roaming for Evolve's users if Evolve markets, sells and constructs network that "reside" outside of the licensed area even for Evolve coverage areas that involve use of leased licensed, unlicensed or light-licensed frequencies.

At least one carrier with whom Evolve is negotiating has contended that unlicensed spectrum cannot form the basis of any "mobile service," and therefore providers who deploy facilities-based coverage using unlicensed spectrum are not providing "commercial mobile service" as a matter of law. The legal contention rests on a strict reading of 47 C.F.R. Section 20.7(h).⁴⁷ The claim is that according to this provision, use of unlicensed devices under part 15 is not a "mobile service" and therefore cannot be a commercial mobile service.

⁴⁷ 20.7 The following are mobile services within the meaning of sections 3(n) and 332 of the Communications Act, 47 U.S.C. 153(n), 332.

(h) Unlicensed services meeting the definition of commercial mobile radio service in § 20.3, such as the resale of commercial mobile radio services, but excluding unlicensed radio frequency devices under part 15 of this chapter (including unlicensed personal communications service devices). (emphasis added)

This reading is wrong as a matter of law. Section 20.7(h) does not support the contention that unlicensed spectrum paired with Part 15 devices can *never* be part of a mobile service or a commercial mobile service. That would be flatly inconsistent with the plain terms of Sections 332(d)(1) and 153(33) of the Act and the definitions of “mobile service,” “commercial mobile radio service” and “commercial mobile data service” in Section 20.3 of the Commission’s rules. If a provider employs unlicensed spectrum to provide an “interconnected” wireless service to the public for a fee that affords mobility, then it is a commercial mobile service. If a provider offers mobile broadband Internet access service⁴⁸ that offer is, by definition, a “mobile service.” This is so even if unlicensed spectrum is used – not only because it still squarely meets the plain wording in those definitions, but also because it is the functional equivalent in any event.⁴⁹ Stated another way, the wording in 20.7(h) cannot and does not overrule the statutory definitions or the other rule-based definitions in other rules that clearly allow unlicensed spectrum to be used in order to provide a mobile service and a commercial mobile service.

Rule 20.7(h) was promulgated in 1994. The Commission subsequently authorized Wi-Fi use in the 5 GHz band as part of “National Information Infrastructure Devices” in Subpart E, and when it allowed 2.4 GHz spread spectrum devices to employ digital modulation (which is how 802.11 operates). None of the rulemaking proceedings that allowed Wi-Fi directly held that unlicensed devices may not be used as part of a mobile service. The Commission anticipated that

⁴⁸ 47 C.F.R. Section 8.2(a) and (e).

⁴⁹ See 47 C.F.R. Section 8.2(a), subpart (b) of the definition of commercial mobile radio service in Section 20.3 and Section 20.9(a)(14) (all stating that the functional equivalent of a commercial mobile service is a commercial mobile service).

common carrier service delivery over the bands would be minimal but it never held or even implied it is not allowed.⁵⁰

Unlicensed PCS is not a mobile service by negative implication as a result of Section 153(33) of the Act. That explains the purpose of Section 20.7(h). But notwithstanding the wording of Section 20.7(h), a mobility service provided through Wi-Fi (which is not unlicensed PCS) can be, and is, mobile service if it meets any of the other alternatives and the general description in the statutory definition.

The Commission has recognized this is so. It has held on several occasions that unlicensed spectrum can be used to provide a mobile service, so it obviously does not read 20.7(h) as an overriding and unequivocal statement that unlicensed frequencies and devices cannot be used to provide a mobile service. The *Open Internet Order* directly states that a Wi-Fi based mobile broadband Internet access service offered to the public by an entity other than a premises owner is subject to the rules applicable to all retail mobile broadband Internet access services.⁵¹ The Commission recently amended its rules to allow unlicensed use of the entire 57-71 GHz band to provide or support “mobile services,” including “5G” commercial mobile radio service.⁵² The Order adopting the new rules noted that part of this band (57-64 GHz) was already

⁵⁰ See, e.g., *In the Matter of Amendment of the Commission’s Rules to Provide for Operation of Unlicensed NII Devices in the 5 GHz Frequency Range*, Report and Order, FCC 97-5, ¶¶ 84-89, 12 FCC Rcd 1576, 1611-1612 (1997) (“...we believe that the vast majority of U-NII devices will provide communications that are complementary to, rather than competitive with, the licensed services.”) Notice the Commission even acknowledged that – while it thought at the time such use would be limited in nature because of the lack of protection against interference – there would in fact be some direct competition with fully licensed services. The Commission could have easily said these bands cannot be used to provide mobile service at all, but they did not.

⁵¹ See, e.g. ¶¶ 191, 216, 224, and 340.

⁵² *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, et. al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014, 8020, 8082, ¶¶ 6-7, 185 (2016) (“*Spectrum Frontiers Order*”). The Commission expressly used the phrase “mobile service” in the context of permitted unlicensed (part 15) operation within 64-71 GHz, so it does not agree that – despite what rule 20.7(h) says – part 15 devices cannot form the basis (Footnote Continued on Next Page)

available for use as a mobile service, and observed that “[a]ny type of unlicensed operation within the 57-64 GHz band is permitted under these rules, with the exception of operation on board aircrafts or satellites, and in mobile field disturbance sensor applications.”⁵³ The Commission opened up the 64-71 GHz portion and applied the same rules as pertained to the 57-71 GHz band.⁵⁴ Therefore, the Commission has expressly authorized use of “Part 15 devices” to provide a “mobile service” and a commercial mobile service.

Nor did the FCC consider rule 20.7(h) to be a bar to inclusion of Wi-Fi based access methods in the context of hearing aid compatibility requirements. Wi-Fi based handsets used for mobile service are covered by the HAC rules *when offered and sold by CMRS providers*.⁵⁵ Rule 20.19(a)(1)(ii) and (f)(2)(ii) expressly provide that the HAC obligation rule applies to all devices using frequencies between 698 MHz and 6 GHz – which includes the unlicensed spectrum and “Part 15 devices” used for Wi-Fi – and specifically mentions CMRS providers that market handsets which include a Wi-Fi air interface. The FCC’s OET technical guidance on this topic is also quite clear that a Wi-Fi based service can constitute a CMRS offering; indeed that is the sole object of the OET guidance.⁵⁶

(Footnote Continued)

of a “mobile service.” *Id.* ¶ 11, 31 FCC Rcd at 8021.

⁵³ 31 FCC Rcd at 8063 (¶ 126), 8127-8128 (¶ 325).

⁵⁴ 31 FCC Rcd at 8064-8065 (¶ 130), 8127-8128 (¶¶ 325-326).

⁵⁵ *See In re Benchmarks Governing Hearing Aid-Compatible Mobile Handsets*, Fourth Report and Order and Notice of Proposed Rulemaking, FCC 15-155, ¶16, 30 FCC Rcd 13845, 13854-13855 (F.C.C. 2015):

16. The Third Report and Order did not otherwise address the scope of the hearing aid compatibility rule, however. As a result, although the Third Report and Order adopted an applicable technical standard that covers wireless handsets that operate over air interfaces like LTE and Wi-Fi, the scope of the rule itself remained limited to handsets used for covered CMRS. Accordingly, handsets that support voice communications over Wi-Fi and LTE, although covered under the 2011 ANSI Standard, are subject to the hearing aid compatibility rules only to the extent those interfaces are used to provide covered CMRS. (emphasis added, notes omitted)

⁵⁶ “For this document, Wi-Fi Calling means enabling CMRS based Telephone Services over Internet services using (Footnote Continued on Next Page)

There is no substantial legal argument that unlicensed Wi-Fi spectrum cannot be used as the basis for, or to support, commercial mobile service under the rules and precedent. The Part 15 rules deal with equipment approval and technical requirements for operation within bands covered by those rules without an individual license, but they do not in any way purport to state that “Part 15 devices” cannot be used in association with the provision of commercial mobile service. An “individual license” is only necessary if the intentional radiator is used “not in accordance with the regulations in this part.”⁵⁷

The argument is also nonsensical because it ignores that virtually every handset sold today contains a “Part 15” Wi-Fi radio along with other intentional radiators operating in other bands, including fully licensed and light-licensed bands. The mobile stations Evolve supports, for example, have one or more radios that use various bands covered by other parts of Title 47, including but not limited to Parts 24, 27 and 90. So since they also have Wi-Fi they will be “Part 15 devices,” “Part 24 devices,” “Part 27 devices” **and** “Part 90 devices.” Each radio will be seamlessly interchangeable; indeed, given current hand-off capability, several of them may be used in a single phone call. The carriers asserting that unlicensed radios cannot be used to support a mobile service are blindly focusing on only one of the capabilities of the device to the exclusion of all others. The interpretation is technically incompetent and would lead to regulatory incoherence.

(Footnote Continued)

Wi-Fi access”. Federal Communications Commission Office of Engineering and Technology, Laboratory Division, Guidance for Performing T-Coil Tests for Air Interfaces Supporting Voice Over IP (e.g., LTE And Wi-Fi) to Support CMRS Based Telephone Services, April 26, 2016, available at https://apps.fcc.gov/kdb/GetAttachment.html?id=NidZ3YsHKuEr69aOwLspvQ%3D%3D&desc=285076%20D02%20T-Coil%20testing%20for%20CMRS%20IP%20v02&tracking_number=36388

⁵⁷ See Section 15.1(b).

Evolve respectfully suggests that the Commission address and resolve in this rulemaking proceeding, or any other proceeding, whether a CMRS provider that uses unlicensed spectrum and its own facilities to publicly offer a real-time, two-way switched voice or data service that is interconnected with the public switched network and utilizes an in-network switching facility that enables the provider to re-use frequencies and accomplish seamless hand-offs of subscriber calls is providing CMRS and may obtain automatic roaming. In addition it should declare that a provider that publicly offers mobile broadband Internet access may obtain a roaming arrangement for commercial mobile data service.

b. What must a requesting provider that intends to expand coverage to new areas in the near future demonstrate before it can obtain roaming terms in advance of actual service provision?

Roaming contracts almost uniformly contain provisions which contemplate that the home and/or host carrier will experience changes to their respective coverage areas. Typically these provisions dictate that the carrier experiencing a footprint change will provide notice to the other carrier, and the other carrier will make the necessary database updates. Such provisions are especially necessary to allow the home carrier to be aware of the operational footprint where roaming is available from the host carrier on an ongoing basis. But sometimes the host carrier wants verification that the home carrier is not trying to obtain what is often called “permanent roaming” for a large number of customers that do not in fact receive any of their service through the home carrier’s own facilities. In this case, the host carrier will want some ability to verify where those facilities are, and then that the user is actually receiving primary service through the home carrier’s own facilities as a condition precedent to the right to roam. These are all

legitimate issues of concern, and parties negotiating in good faith should be able to devise mutually-acceptable contract terms to resolve them.

Even though negotiated agreements almost uniformly allow the home carrier to add new coverage and secure roaming for customers served by that new coverage, Evolve has recently faced an outright refusal by two large providers to include terms that do so. Specifically, these two carriers want terms that address only Evolve's customers in CMA 667 and will not include nor bargain on any terms allowing Evolve to add new facilities-based coverage and secure roaming for customers served through that coverage. Instead, they insist that Evolve must seek another agreement or amended terms each time Evolve adds a new facilities-based coverage area, and only after the new coverage area has become operational.

Data Roaming Order ¶¶ 30, 42, 43, 48 and 51 address this issue. It states that host carriers must *offer* terms for roaming even if the requesting carrier is not presently providing facilities-based service, but the terms may provide that they become *effective* later, with the result that the host provider must only *provide* roaming when the home carrier is actually serving the customer with its own facilities. Despite this guidance, the two carriers continue to refuse to offer compliant terms. They do so by arguing that Evolve has not provided them sufficient evidence that Evolve has both the intent and ability to construct new coverage areas. At the same time, however, neither of the two carriers will advise Evolve precisely what "evidence" – beyond the extensive confidential information Evolve has already given them about its plans, including specific geographic locations – would constitute a sufficient demonstration of intent and ability.

This ploy has allowed the negotiating host carriers to avoid their duty to offer roaming terms. Evolve should not have to negotiate new terms with each of its roaming partners each time

it adds a new facilities-based coverage area. The cost of negotiation and the delay to initial service provision would present a significant barrier to Evolve's ability to expand. Evolve could not offer roaming as part of the lure for new customers before service initiation and would have to wait some unknown amount of time after the new coverage has become operational. The Commission expressly recognized that such restrictions would erect unreasonable barriers to new entry in the *Data Roaming Order*.⁵⁸

It is reasonable to require some level of assurance that the requesting provider is actually providing service in a new area before the host carrier must *provide* roaming. On the other hand a demand for unspecified but exacting advance proof by the requesting provider of intent and ability before a host will even *offer terms* is unreasonable and unnecessary. After all, if the requesting provider does not build new coverage then there will be no customers who roam and the host carrier will suffer no burden. But if the Commission nonetheless believes some level of advance proof regarding intent and ability is necessary, the Commission needs to prescribe what that is, because Evolve has not been able to satisfy either carrier despite extensive disclosures. Neither host carrier will ever specify exactly what proof they actually want to see.

3. There is no clear understanding regarding what the Commission wants to allow and what it wants to limit, discourage or outright prohibit with regard to LTE roaming use.

Analog, 2G and 3G roaming very much resembled resale because both made extensive use of the visited (host) network's switching, routing and interconnection to other networks. Except for some authentication, billing and other back-office particulars even automatic roaming

⁵⁸ See *Data Roaming Order* ¶¶ 30 and 48.

largely resembled resale. The host carrier was effectively providing a complete finished service to the retail end user.

That explains the Commission's repeated cautionary notes that roaming should not be "used as a backdoor way to create *de facto* mandatory resale or virtual reseller networks."⁵⁹ Any characterization of "too much roaming" as being *de facto* or "backdoor resale," however, is not apt in the LTE roaming context given the way it is actually carried out today, as shown in Parts III and IV above. LTE roaming simply does not "entail[] a reseller's purchase of CMRS service provided by a facilities-based CMRS carrier in order to provide resold service within the same geographic market as the facilities-based CMRS provider."⁶⁰ It does not constitute "an opportunity to market a competitive retail service without facilities development"⁶¹ because LTE roaming "require[es] a provider to offer [] service on its home network" in order to function. Therefore, the technical aspects of LTE roaming guarantee that the home carrier's facilities will always be "an essential element of a request for roaming coverage as opposed to resale"⁶² regardless of the amount of actual roaming use.

LTE roaming is not, and cannot be called, resale since the home carrier will always be using its own network facilities in combination with the host carrier's RAN access input. The

⁵⁹ *Automatic Roaming Order*, 22 FCC Rcd at 15836, ¶ 51 and n. 120; *Automatic Roaming Reconsideration Order*, 25 FCC Rcd at 4199, 4223, ¶¶ 35, 89; *Data Roaming Order*, 26 FCC Rcd at 5429, 5430, 5454, ¶¶ 34, 38, 88.

⁶⁰ *Automatic Roaming Order* ¶ 51. Nor does LTE roaming remotely resemble a "resale" arrangement as the Commission has consistently defined "resale." See *In the Matter of Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services*, First Report and Order, 11 FCC Rcd 18455, 18457, ¶3 (1996), citing *Resale and Shared Use of Common Carrier Services and Facilities*, 60 FCC2d 261, 263 (1976), reconsideration, 62 FCC2d 588 (1977), *aff'd sub nom. AT&T v. FCC*, 572 F.2d 17 (2d Cir.), *cert. denied*, 439 U.S. 875 (1978). ("3. We have defined resale as an activity in which one entity (the reseller) subscribes to the communications services or facilities of a facilities-based provider and then reoffers communications services to the public (with or without 'adding value') for profit").

⁶¹ *Automatic Roaming Reconsideration Order* ¶ 35.

⁶² *Automatic Roaming Reconsideration Order* ¶ 89 and *Data Roaming Order* ¶ 38.

user will (or should) still receive a significant amount of usage through the home carrier's own RAN with recourse to roaming only when the home carrier's own RAN is not available.

Calling extensive LTE roaming use a form of “backdoor” or “*de facto*” resale is a deceptive euphemism that allows the larger carriers to oppose roaming in the general sense. It does not aid the conversation. The *real* concern – and it is a valid one – is whether unlimited access to roaming will provide a reduced incentive for home carriers to invest in their own networks. This is a question where there is a reasonable argument on both sides. Evolve suggests that encouraging more roaming at a lower price would incent and allow investment, so long as roaming is only made available where a user receives a “primary” level of service from the facilities-based home provider, and roaming is ancillary to the “primary” service. In other words, the Commission should discourage routine “permanent roaming,”⁶³ but encourage roaming that is ancillary to a home carrier's primary service. To put it succinctly, “permanent roaming bad” but “ancillary roaming good.”

This problem can be entirely resolved through non-price terms in roaming contracts. A roaming contract can impose a requirement that roaming is only available on an ancillary basis, and condition availability on the individual roamer's receipt of primary service from the home provider rather than the host provider. If necessary, the two carriers can negotiate percent roaming caps on a total carrier and/or per-user or account basis. The answer is *not* extortionate prices expressly intended to limit all roaming, which is one of the stated justifications for the major nationwide carriers' high prices.

⁶³ A “permanent roamer” is a subscriber that does not receive primary service from the home carrier's facilities-based coverage. Although the permanent roamer has a contractual relationship with the home carrier, the primary use occurs on a host carrier's network.

A “primary use” criterion – rather than an exorbitant and punitive price – would allow small carriers with relatively small or predominantly rural coverage areas to offer a primary service within those areas. This would still also allow them to support ancillary consumption when their users travel to other areas, including major urban areas where the larger providers predominate. Small carriers would still have lots of incentive to invest in new coverage areas.

Cost considerations can also be relevant. Evolve does not suggest that the Commission should set the price at cost, or even necessarily insist on an inflexible rule requiring production of an individual host carrier’s own cost information. The Commission can look to industry cost trends and use those as an acceptable proxy. Several publicly available analyses of the cost to deploy and operate LTE RANs are available, and could materially contribute to any assessment of the upper and lower bounds of a reasonable roaming price.⁶⁴ The *Nineteenth Report* relied on certain industry cost estimates to inform some of its conclusions.⁶⁵

Price, like usage restrictions, involves a balancing of competing interests. There is a legitimate concern that an operator may use roaming as an alternative to investment in its own facilities if the price is low enough in comparison to the total costs (capital and operating expenses) of deploying and operating facilities. In order to mitigate this risk, the *margin over cost* for roaming can be higher than the margin for unregulated retail or resale services in order to help find the “right” price – one that will encourage seamless national connectivity for all customers of all operators but not discourage investment and deployment of new or improved

⁶⁴ See, e.g., Katsigiannis and Smura, A cost model for radio access data networks (January, 2015), available at https://www.researchgate.net/profile/Michail_Katsigiannis/publication/273188589_A_cost_model_for_radio_access_data_networks/links/5621274508ae93a5c927dadf.pdf; Nokia White Paper, Mobile broadband with HSPA and LTE – capacity and cost aspects (June, 2014), available at <http://resources.alcatel-lucent.com/asset/200183>.

⁶⁵ See *Nineteenth Report* ¶ 74 and associated notes.

coverage by home carriers.

The “right” price should: (i) allow the host carrier to cover cost and provide a reasonable margin and (ii) not make it impossible for the home carrier to compete at the retail level no matter how efficient or innovative it is in the operation of its own facilities and services. A price that materially exceeds retail market prices violates condition (ii), while one that is comparable to or somewhat below retail satisfies both (i) and (ii), and will not be so low that the requesting carrier has lessened insufficient incentives to invest and build.

The Commission’s goal should be to guide the industry’s search for a solution to the “Goldilocks” problem. How much roaming is too little? What is too much? What is just right? What non-price restrictions will lead to the “just right” amount? What price levels will be high enough to incent continued deployment, but low enough to ensure that small providers can obtain roaming and actually allow their users to roam? The current rules and the stated factors have not yet yielded a roaming porridge that is just right; to the contrary they have only further turned up the heat.

4. Are home carriers that market facilities-based service to users outside of their “licensed areas” ineligible for roaming?

A final issue that has arisen in Evolve’s negotiations is host provider demands that roaming be restricted to only roamers that “reside” in Evolve’s licensed facilities-based coverage area. Evolve submits that a “residency” requirement tied to a licensed area as a condition for roaming eligibility is not reasonable, especially when the home provider wants to emphasize a product for business or enterprise customers or to other niche markets that can use unlicensed, leased licensed and light licensed facility build outs.

Evolve fully supports a prohibition on permanent roaming, and a requirement that the home provider actually provide the primary portion of the service via the home provider's own facilities-based coverage. But tying eligibility to service provision at an individual user's personal "residence" in a pre-determined "licensed" area is an unreasonable restriction, especially in light of the fact that new and better methods of connecting cellular phones to unlicensed technology are on the near horizon.

An individual user may "reside" in one market but work in another, and use mobile service only for employment related purposes. An enterprise or business may be the actual subscriber to the home carrier's service and make devices available to employees as an amenity or for business use. A college student may spend most of her time and receive her primary facilities-based service while on campus but still maintain her "residence" elsewhere. A homeless person (who has no place of residence) trying to escape that condition by searching for a job and ultimately a home could be given a smartphone as part of a job training or assistance program administered by a public or private organization.

Evolve can build and maintain multiple facilities-based networks today that cover multiple business and campus locations all over the country, but it cannot do so if all of the coverage must be licensed and only users that "reside" in the coverage area are eligible for roaming. There is no Commission "licensed only and must reside" policy or rule, but at least two nationwide carriers are trying to impose one by refusing to offer roaming terms unless Evolve will "voluntarily" agree to seek roaming only for its customers that "reside" in an Evolve "licensed" coverage area. Evolve refuses to agree to this restriction, and will continue to do us

unless and until there is a ruling that this kind of restriction is lawful, reasonable and consistent with the Commission's rules and policies.

The sole requirement or condition is and should be primary service provision, without any tie to “residence.” Mandating that each individual user “reside” in a licensed home area is an unreasonable restraint of trade, because it functionally prevents smaller carriers with smaller licensed footprints from marketing to the enterprise and business sector or niches like service to transients or even the homeless (which do not have a place where they “reside”). Ultimately, it limits small and rural providers to provision of only residential service to a sparse population base. It unfairly limits the facilities-based services that smaller providers can offer to the public and ultimately lessens the ability to earn a profit on their facilities investment, thus reducing incentives to invest.

VI. If the Commission Clarifies the Current Standards, Mitigates Current Complaint Case Delays, and Alleviates Costs Facing New Entrants, Unification Under Title II is not Necessary.

Roaming for broadband Internet access can remain outside of Title II and subject to Rule 20.12(e), if the Commission provides more substantive direction and certainty regarding desired outcomes for both Title II roaming (automatic roaming) and Title III roaming (roaming for broadband Internet access) and lessens the cost and risk of litigating complaints.

A. Background

The Commission reclassified retail broadband Internet access as a telecommunications service in the *Open Internet Order*.⁶⁶ In order to affect that result for wireless services, the Commission updated the definition of public switched network to include services that use public

⁶⁶ *Protecting and Promoting the Open Internet*, R&O on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 (Footnote Continued on Next Page)

IP addresses, which then allowed the service to be considered “interconnected” and therefore CMRS.⁶⁷ This action would have immediately swept roaming for most commercial mobile data services into automatic roaming – resulting in Title II treatment – but the Commission decided to forbear from that result, in part, for mobile broadband Internet access, pending further consideration in a rulemaking.⁶⁸ The contemplated new rulemaking proposes to basically end the forbearance regarding roaming arrangements to support mobile broadband Internet access, and place all roaming under a unified Title II regime. The current “commercially reasonable” standard for assessing roaming arrangements for commercial mobile data service would go away, leaving only the “just, reasonable and not unreasonably discriminatory” standard in Communications Act §§ 201 and 202.⁶⁹

Evolve would support a unified Title II approach for all roaming from a theoretical and legal perspective, but it may not be necessary. The continuing problems small carriers face in securing roaming arrangements for both interconnected voice and data and broadband Internet access can be mitigated through other means, and the real problem is not differing standards. Specifically, the problems can be substantially mitigated if the Commission *reinforces* that there are two standards, *clarifies* the substantive meaning of each standard, *applies* the two standards

(Footnote Continued)

(2015) (“*Open Internet Order*”).

⁶⁷ *Id.* ¶¶ 48, 390-408. The Commission also found, in the alternative, that Internet access is the functional equivalent of CMRS.

⁶⁸ Deeming mobile broadband Internet access “interconnected” without further action would have removed it from coverage under Section 20.12(e) and brought it within Section 20.12(d). The Commission forbore from enforcing that result, thus retaining the treatment of mobile broadband Internet access under Section 20.12(e) for roaming purposes notwithstanding the fact it is now interconnected and CMRS. *Id.* ¶¶ 523-526.

⁶⁹ It is not clear from public reports whether the NPRM would apply Title II to **all** roaming, including even those commercial mobile data services that are still not “interconnected” under the revised definition because they do not afford public Internet access or allow users to access legacy E.164 telephone addresses. *See Open Internet Order* ¶ 397 n. 1151.

in their proper context, more vigorously *enforces* them, and takes action to *reduce* the litigation risk and cost that small carriers presently face as against the two major nationwide providers.

B. Legal differences between Title II just and reasonable/nondiscriminatory standards and Title III commercially reasonable standard

There are three primary differences between the Title II automatic roaming rule and the commercially reasonable standard for commercial mobile data service roaming as a result of the *Open Internet Order* forbearance. The automatic roaming rule expressly invokes Sections 201 and 202, thereby requiring that terms and conditions be “reasonable and not unreasonably discriminatory.”⁷⁰ The “data roaming” rule uses a lower standard: terms and conditions must be “commercially reasonable.” As a result, there is no prohibition against unreasonable discrimination (since Section 202 does not apply), and “commercial reasonableness” may allow terms or conditions that are not just and reasonable under Section 201. Finally, the burden of proof is different. For automatic roaming under Section 20.12(d) a request by a technologically compatible carrier is presumed reasonable and the host carrier ultimately bears the burden of proving its rates are lawful. With roaming for commercial mobile data service under Section 20.12(e), the complainant (which will usually be the requesting home carrier) has the burden of going forward and the ultimate burden of proof.

⁷⁰ See Section 20.12(d). The Commission has held that the §202 prohibition against unreasonable discrimination does not proscribe variances “across different geographic markets due to differences in population and other factors affecting the supply and demand for roaming services.” *In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Serv. Providers*, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 15817, 15834, ¶ 44 (2007) (“*Automatic Roaming Order*”). Apparently the Commission takes a relatively strict view of what is a “like communications service” for purposes of discrimination analysis in the roaming context.

1. AT&T and Verizon want to collapse the two different standards into one unitary functional standard that is inconsistent with both “just and reasonable” and “commercially reasonable.”

AT&T and Verizon only pretend to want two different standards. In fact, they truly desire a single standard, as a practical matter. They would effectively collapse both standards (20.12(d) and 20.12(e))⁷¹ into a simple, rote comparative analysis: if the host carrier’s proffer is within the same range as its other negotiated (non-litigated) roaming prices, then the it is *both* just and reasonable and not unreasonably discriminatory (for automatic roaming) *and* commercially reasonable (for commercial mobile data service roaming).⁷² This argument – which has already been adopted by the Enforcement Bureau in one complaint case⁷³ – results in a single functional standard that not consistent with either Section 20.12(d) or 20.12(e). AT&T and Verizon heartily approve, however, because it allows them to entirely control the outcome.

⁷¹ The rote comparative theory urged by AT&T and Verizon for both 20.12(d) and 20.12(e) (is the proffered rate is within the lower range of rates contained in the host carrier’s other agreements) is ultimately a test for “discrimination” rather than reasonableness, even though the 20.12(e) “commercially reasonable” standard does not include a nondiscrimination prong. Apparently they want to add discrimination to 20.12(e) without so admitting.

⁷² See, e.g., Docket 05-265, AT&T Application for Review, p. 1 (Jan. 16, 2015), available at <https://ecfsapi.fcc.gov/file/60001014181.pdf> (“the Commission made clear that commercial reasonableness would be determined to a significant degree by the rates and terms that prevail in the existing, negotiated roaming agreements that scores of sophisticated parties rely on today to compete in the marketplace, which would be presumed reasonable.”); Docket 05-265, AT&T Reply to Oppositions to Application for Review, pp. 3, 4 (Feb. 19, 2015), available at <https://ecfsapi.fcc.gov/file/60001031525.pdf> (“standard must look first to the range of rates that sophisticated data providers are paying in today’s marketplace in unchallenged agreements”; “look primarily to generally prevailing rates and terms in marketplace roaming agreements”); Docket 05-265, Verizon Application for Review, pp. 5, 6 (Jan. 20, 2015), available at <https://ecfsapi.fcc.gov/file/60001014763.pdf> (“voice roaming factors [are] relevant for data roaming as well”; “The factors adopted by the Commission only reference the terms and conditions, including pricing, in relevant roaming agreements, and do not encompass retail or resale rates.”).

⁷³ *NTCH, Inc. v. Cellco Partnership d/b/a Verizon Wireless*, Order, EB Docket No. 14-212, File No. EB-13-MD-006, DA 16-734, 31 FCC Rcd 7165 (June 30, 2016), judicial review pending, *NTCH, Inc. v. FCC*, Court of Appeals for the D.C. Circuit, Case No. 16-1277 (“*EB NTCH Decision*”). Compare ¶ 12 (“Verizon’s proffered voice roaming rate ... is well within the range of comparable contractual rates” with ¶ 15 (“Verizon’s offered data rates are well within the range of rates in Verizon’s other roaming agreements. Verizon’s offer to NTCH is at or below the average rate that other Verizon roamers pay.”)

Reasonable comparability to other agreements is not the proper test for either standard.

This would ignore a host of the Commission's other stated factors and – more importantly – automatically approve a price even if it is so high the home carrier cannot offer nationwide service while charging anything close to a competitive retail price.

2. Section 201 “just and reasonable”

Title II rate regulation has traditionally used cost as the main criterion for measuring whether a rate is just and reasonable.⁷⁴ The FCC is not, however, required to establish purely cost-based rates,⁷⁵ although it must specially justify any rate differential that does not reflect cost.⁷⁶ The Commission has determined not to strictly assess retail CMRS prices based on cost.⁷⁷ It also ruled that cost considerations are not to be used as the main criterion for automatic roaming prices (which applies §201).⁷⁸ Indeed, the host carrier's costs are not even listed in the non-exclusive list of factors the Commission identified for resolving automatic roaming disputes. But that list is not exclusive, so cost may be (and, Evolve submits, should be) relevant if there is

⁷⁴ *MCI v. FCC*, 675 F.2d 408, 410 (D.C. Cir. 1982); *ALLTEL Corp. v. FCC*, 838 F.2d 551, 557 (D.C. Cir. 1988); *In the Matter of Rates for Interstate Inmate Calling Services (“ICS I”)*, 28 FCC Rcd 14107, 14131, *45 (2013); *In the Matter of Rates for Interstate Inmate Calling Services (“ICS II”)*, 28 FCC Rcd 15927, 15928, ¶ 3 (2013); *In the Matter of Petition of ACS of Anchorage*, 22 FCC Red. 16304, 16330 n. 155 (2007); *General Commc's, Inc. v. Alascom, Inc.*, 4 FCC Rcd 7304, ¶ 16 (1988); *Application by Verizon New England*, 17 FCC Red 7625, 7632, ¶ 13 (2002); *In the Matter of MTS and WATS*, 97 F.C.C. 2d 682, 687 ¶ 10 (1995); *In re Investigation of Special Access Tariffs*, 4 FCC Red. 4797, 4800 ¶ 32 (1988).

⁷⁵ *Competitive Telcoms. Ass'n v. FCC*, 87 F.3d 522, 529 (1996), citing *National Ass'n of Regulatory Util. Comm'rs v. FCC*, 737 F.2d 1095, 1137 (D.C. Cir. 1984) and *National Rural Telecom Ass'n v. FCC*, 988 F.2d 174, 182-83 (D.C. Cir. 1993). See also *Farmers Union Central Exchange et al., v. FERC*, 734 F.2d 1486, 1501 (D.C. Cir. 1984); *Consumers Union v. FPC*, 510 F.2d 656, 660 (D.C. Cir. 1974).

⁷⁶ *In the Matter of Petition of the Connecticut Dep't Pub. Util. Control to Retain Regulatory Control of the Rates of Wholesale Cellular Serv. Providers in the State of Connecticut*, 10 FCC Rcd 7025, 7029 (1995) (the measure of reasonableness under Section 201 for CMRS is “not dictated by reference to carriers' costs and earnings, but may take account of non-cost considerations such as whether rates further the public interest by tending to increase the supply of the item being produced and sold”).

⁷⁷ *Alltel Corp. v. FCC*, 838 F.2d 551, 556-58 (D.C. Cir. 1988).

⁷⁸ *Automatic Roaming Order*, 22 FCC Rcd at 15824, ¶ 18, 15831-32, ¶¶ 36-38; *Automatic Roaming Reconsideration Order*, 25 FCC Rcd at 4200-4201, ¶¶ 39-40 (2010).

reliable cost evidence available for submission. For automatic roaming, at least, the complainant should be able to obtain discovery regarding the home carrier's cost of delivering roaming, and, while not controlling, it should be an available assessment factor. If the complaining carrier can show that the proffered price for automatic roaming would yield extortionate and supranormal profits, then the price cannot be either just or reasonable and it certainly could not be said to be a true "market" price.

From a functional perspective the AT&T/Verizon test would always lead to approval of a proffered but contested price that is roughly the same as prices in extant "negotiated" rates. The problem, of course, is that many of the carriers who decided to not litigate have themselves advised the Commission *in this proceeding* that they did so largely because they could not afford to litigate or suffer the delay attendant to doing so, even though they contend the price is not reasonable, and they are horribly disadvantaged by having to provide nationwide service with that price. The ones who signed the "voluntary" contracts say the price is not truly voluntary, not reasonable and is unsustainable. They decry these terms as entirely outside the universe of prices and terms that would result from a working competitive market and a situation where the buyer and seller have close to equal bargaining power.⁷⁹

The AT&T/Verizon functional unitary test provides no substantive guidance regarding what is – or is not – just and reasonable. It entirely eschews cost, the Commission's stated factors for either automatic roaming or commercial mobile data roaming and all other considerations. It turns exclusively on whether the proffered price is comparable to other negotiated (non-litigated) prices. This result would render the availability of Commission complaints into a sham. There is

no regulatory backstop against anything other than a proffered rate higher than what other carriers reluctantly accepted because they could not afford to litigate. Further, it essentially delegates the determination of what is “reasonable” to the sole control of the major nationwide carriers, because any complaint will result in regulatory acceptance of the price that was initially demanded by the large carrier. This approach would significantly reduce large carriers’ incentive to offer lower roaming prices in negotiations.

Even if it could be said that there was true bargaining, some level of negotiating power and, ultimately a discernible “market price,” the entire approach is legally suspect. Automatic roaming is a common carrier activity and is subject to the command in § 201 that the price be just and reasonable. There is a substantial question whether the Commission can lawfully use “indirect” or “proxy” price regulation by delegation to “market prices” and negotiations when there is not an established, well-functioning workably competitive roaming market.⁸⁰ A competitive market must exist before market-proxy rates can be just and reasonable. Further, the Commission must far more actively and effectively monitor market behavior, and on an ongoing basis reassure itself that the resulting prices are consistent with a competitive market. *Ex ante* determinations do not suffice; there must be a credible ongoing monitoring. Otherwise, “market-based” ratemaking by proxy cannot be considered just and reasonable.⁸¹

(Footnote Continued)

⁷⁹ See Notes 39 and 41, *supra*.

⁸⁰ The retail mobile market is at least somewhat competitive. But there is not yet anything close to a workably competitive market for wholesale roaming.

⁸¹ *Fed. Power Comm’n v. Texaco, Inc.*, 417 U.S. 380, 393-97, 94 S. Ct. 2315, 2324-26 (1974) (“the prevailing price in the marketplace cannot be the final measure of ‘just and reasonable’ rates mandated by the Act.”) The courts have relaxed the rule somewhat, but only when there is a competitive market, the entity under scrutiny lacks market power and the agency ensures that the market is not subject to manipulation. See, e.g., *Montana Consumer Counsel v. FERC*, 659 F. 3d 910, 916-17, 19 (9th Cir 2011); *California ex rel. Lockyer v. FERC*, 383 F. 3d 1006 (9th Cir. 2004); *Louisiana Energy & Power Authority v. FERC*, 141 F.3d 364, 365 (1998). There is no competitive “roaming” (Footnote Continued on Next Page)

For so long as there is no working competitive wholesale roaming market the Commission must have the ability to directly set a reasonable price that is lower than an adhesion amount forced on a party with zero bargaining power. There is a zone of reasonableness, and it is not entirely bounded by cost, but ultimately there must be a mechanism that results in an outcome that balances both sides' interest and, more particularly, consumers' interests, including the consumers of the home carrier as well as the host carrier. Specifically, if the complainant shows that the proffered price would not allow the complainant to actually provide seamless nationwide service at a competitive price for the entire bundled service (both in-home and roaming), then the Commission must retain the ability to require the host carrier to provide automatic roaming at a lower price – one that is sustainable.

Evolve is not suggesting that there should be no limits. A home carrier should not be able to base its entire service to the user on “permanent roaming” use. Some reasonable amount of home facilities-based network consumption can and should be required. There can be a “price signal” to some extent that encourages this result, but the preferable route is a substantive term that limits the percent of roaming on the individual host carrier’s network, thereby ensuring that the requesting carrier does not “rely on roaming arrangements in place of network deployment as the primary source of their service.”⁸² This will limit the home carrier’s reliance on roaming, and ensure that all carriers – both home and host – continue to invest in infrastructure.⁸³

(Footnote Continued)

market. AT&T and Verizon have market power, and the Commission has taken no steps to prevent market manipulation.

⁸² *Data Roaming Order* ¶ 21.

⁸³ *See Automatic Roaming Order* ¶¶ 49-50; *Automatic Roaming Reconsideration Order* ¶¶ 10, 18, 21, 23, 30-32, 34-35; *Data Roaming Order* ¶ 21.

3. Section 20.12(d) “commercially reasonable”.

For “data roaming,” the Commission generally described some policies and goals in ¶¶ 13-15 and a list of contract term assessment “factors” in ¶¶ 68 and 86 of the *Data Roaming Order*. The Commission, however, has not provided a legal definition of “commercially reasonable,” nor has it actually explained what the desired substantive outcome is. There is no reliable guidance on specific terms, conditions and prices that are or are not commercially reasonable. The Wireless Telecommunications Bureau’s *Declaratory Ruling* would, if affirmed by the Commission, fill in some of the interstices within the stated factors, but even then the industry will still not know with any certainty what *outcomes* the Commission wants to ensue.

Does the Commission want small carriers to be able to afford to let their users roam? If so, the roaming price cannot result in roaming costs that are so high that the small carrier pays the large hosts more in wholesale than the small carrier can charge at retail, for an input that is often a small percentage of total retail consumption. To be frank, data roaming prices today are so high that nationwide roaming is not economically feasible for small carriers. It does not matter what the “standard” is if, in the end, the substantive outcome provides no utility.

Nor do we have a real handle on what *metrics* the Commission prefers. Does the Commission want roaming prices to be higher than prevailing retail, and if so by how much? Does the Commission want roaming prices to be lower than prevailing retail, and if so by how much? Does the Commission want domestic roaming prices to be more in line with the prevailing roaming prices in other parts of the world? Even though LTE roaming is not technically or practically like resale any longer, does the Commission want roaming prices to be in line with what MVNOs pay? Do any of these metrics matter?

The Commission must give more direction. One very helpful step would be to expressly adopt the courts' interpretation of what "commercially reasonable" substantively means. Courts have looked to the Black's Law Dictionary definition, and sometimes the Uniform Commercial Code. The general consensus is that "commercially reasonable" (1) has both objective and subjective components; (2) requires a case-by-case and fact-specific inquiry; (3) contracts that require undefined "commercially reasonable" conduct do not automatically and reflexively incorporate "industry standards" without further factual evaluation of the parties' circumstances and the consequences of compliance with those standards;⁸⁴ and (4) whether something is or is not "commercially reasonable" is ultimately a question of fact.⁸⁵

A "commercially reasonable" contract provision must be fair to both sides and serve the overall public interest. It cannot unduly prejudice one party. In the roaming context, that means the home carrier must be able to obtain prices that will be low enough that the home carrier can allow roamers to actually use roaming, and the price and non-price terms cannot unreasonably prevent small carriers from competing in the market. Roaming terms that are financially, practically and operationally unsustainable to the small, rural carrier are not measurably different from having no roaming at all. The host carrier, of course, should be fairly compensated and the

⁸⁴ The *Open Internet NPRM*, for example, correctly asked about the impact industry standards and practices should have on the determination of commercial reasonableness. 29 FCC Rcd 5608, ¶34 ("How, if at all, should the fact that conduct is an industry practice impact the application of the 'commercially reasonable' rule? What should be treated as an 'industry practice'?).

⁸⁵ *Metavante Corp. v. Emigrant Sav. Bank*, 619 F.3d 748, 763-766 (7th Cir. 2010); *L. W. Matteson, Inc. v. Severson Envtl. Servs.*, 831 F. Supp. 2d 608, 616-617 (W.D.N.Y. 2011); *Microboard Processing, Inc. v. Crestron Elec., Inc.*, 2011 U.S. Dist. LEXIS 33000 (D. Conn. Mar. 29, 2011), *adopting Microboard Processing, Inc. v. Crestron Elecs., Inc.*, 2011 U.S. Dist. LEXIS 33109, *18-*23 (D. Conn. Jan. 11, 2011); *LeMond Cycling, Inc. v. PTI Holding, Inc.*, 66 Fed. R. Evid. Serv. (Callaghan) 305, 2005 U.S. Dist. LEXIS 742 *14-15 (D. Minn. Jan. 14, 2005).

arrangement cannot prejudice the host carrier's ability to provide retail service to its own customers.

The ultimate goal should be a net benefit to society and the entire user base. The overarching policy should protect *competition* not individual *competitors*, and ensure that it serves the ultimate goals espoused in §151 of the Act: “to make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, [and] for the purpose of promoting safety of life and property through the use of wire and radio communications.”⁸⁶

The Commission needs to send much clearer signals to the industry so they can mutually negotiate terms that coalesce around, and ultimately meet, the Commission's stated desired outcomes and goals. What does the Commission really want by way of outcomes? What could the two negotiating carriers reasonably expect to be the result if a complaint is filed? How will their various negotiating proposals be assessed? The stated “factors” have not been sufficient, since they have only lead to more disagreement. The Wireless Telecommunications Bureau's *Declaratory Ruling* – if sustained – would help some but even that is not enough because it does not address other disputes over non-price terms and conditions, and offers little to no guidance on the Commission's preferred substantive outcomes.

⁸⁶ 47 U.S.C. §151.

C. Reducing small carriers' litigation risk and cost will limit the times recourse to the complaint process is necessary and make the complaint process more efficient.

Clearly articulated *ex ante* guidance will lead to better informed and more truly arms-length contracts. It would also reduce the need for *ex post* complaints and lower the cost of any required complaint. The current rules and the orders promulgating them do not provide sufficient clarity, and rely on the complaint processes to flesh it all out. But that is expensive, and given the present uncertainty, few requesting carriers are likely to undertake the cost and associated risk. The risk and cost has – as discussed above – caused many small carriers to accept contract terms and prices that are not, in fact, truly reflective of what would result in a competitive market or what would obtain in a true negotiation between a willing vendor and a buyer with alternatives, and thus some negotiating power.

Complaints take years and hundreds of thousands of dollars. The complaint route should be retained only for outliers of very significant disputes, but even then clearer instruction would shorten the time and reduce the cost to carriers and the Commission. For so long as there is not a working competitive market for roaming, the Commission must provide far more *ex ante* guidance for negotiations and reduce the cost and risk associated with *ex post* complaints when – in the hopefully still-rare situation – a complaint is necessary.

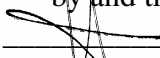
VI. Conclusion

Evolve has explained – with references to current technical standards and industry practices – why VoLTE is already subject to the Rule 20.12(d) automatic roaming standard and the Commission does not have to require that the major carriers take the technical steps necessary to support fully interoperable “VoLTE roaming” at this time. Evolve has also demonstrated that there is no working and competitive “roaming” market. Regulatory backstops are still necessary

to ensure that small and rural providers that do not have and will never have their own nationwide facilities-based networks will have access to roaming and be able to provide a competitive service to their facilities-based customers. Nonetheless, the Commission can fix current problems without imposing a unified standard for all roaming, or subjecting roaming for broadband Internet access to Title II. What is needed is more substantive direction and certainty regarding desired outcomes for both Title II roaming (automatic roaming) and Title III roaming (roaming for broadband Internet access) and actions that lessen the need for complaints, but also reduces the cost and risk of litigating complaints when they are necessary.

Evolve respectfully requests that the Commission issue a Declaratory Ruling resolving the previously discussed legal question on automatic roaming. Evolve further requests that the Commission then proceed to issue further rules and promulgating orders that provide the needed clarity on the Commission's goals and desired outcomes for roaming.

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December 28, 2016

CERTIFICATE OF SERVICE

I hereby certify that on December 28, 2016, I caused a copy of the foregoing to be served on counsel for AT&T Mobility, LLC in EB Docket No. 14-221, File No. EB-14-MD-011, as indicated below:

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